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CONTENTS

Abstracts of Current Periodontal Literature (1931-1932)

(a) Periodontal Histo-pathology . . . . . *111 and 193*

(b) Periodontal Bacteriology . . . . . *120 and 199*

(c) Other Laboratory Researches . . . . . *121 and 200*

(d) Clinical Etiology . . . . . *128 and 202*

(e) Symptomatology and Diagnosis . . . . . *140 and 209*

(f) Treatment . . . . . *154 and 214*

(g) Home Care and Prophylaxis . . . . . *178 and 225*

(h) Vincent's Infection . . . . . *181 and 227*

(i) Miscellaneous . . . . . *188 and 235*

Index of Subject Matter *241*

Index of Authors *245*

THE JOURNAL OF PERIODONTOLOGY is published to serve as the professional journal of periodontia; to keep dentists in touch with research being carried on in this field and related sciences; to stimulate greater interest in the supporting tissues of the teeth and their relation to oral and general health. The plan to continue the publication of abstracts indefinitely will make the Journal a fund of extensive information, readily available to students, teachers, researchers and clinicians.

The Journal is the official organ of the American Academy of Periodontology and will contain therefore those papers of scientific interest which are presented at the annual meetings of that society. The entire proceedings of the 1933 annual meeting will be published in the January 1934 issue. This number contains the abstracts of articles on periodontia which appeared in the year 1931 and 1932.

We are grateful to all who have made available the subject matter from which the abstracts and copies have been made, including the authors of the original articles, the Journals mentioned in the text of the abstract section, and those who have aided in any way in compiling the material presented.

We also wish to express our appreciation for the encouragement received from many sources, especially from librarians, teachers and those active in dental journalism. The value of this cannot be overestimated, and we shall make every effort to be worthy of their continued approval.

ABSTRACTS AND EXTRACTS OF CURRENT DENTAL LITERATURE FOR 1931 AND 1932 ON

(a)—Periodontal Histo-pathology

(Continued from July, 1932 issue, page 117)

1931

97—Bergamini, M. (Florence, Italy): **Studio sull' innervazione della gengiva. Nota preventiva.** Etude sur l'innervation de la gencive. Study on the innervation of the gingiva, in: Stomat., xxix: 537. Aug., 1931. Abs. Rev. Odont., liii(2): 125. Feb., 1932.

Are the nerve fibers of the gum derived from the cranial nerves, or from the trigeminal nerve, since they are exclusively sensory, or from the sympathetic system, with a function purely vegetative?

The author has not yet been able to determine from his studies whether we are dealing with myelinated or non-myelinated nerve fibers, or naked axis cylinders. Researches on these points are being continued and will explain, it is hoped, many of the reflex phenomena met with in dental practice.

—*Transl., H. A. R.*

98—Bödecker, Charles F., D. D. S., and Cahn, Lester Richard, D. D. S.: **The histology and function of the gingiva,** in: Items of Int., liii(2): 94-104. Feb., 1931.

The oral mucous membrane or mucosa is divided into (a) true mucous membrane and (b) gingiva. Since mucous glands are present only in the tissue lining the cheeks, the lips, floor of mouth and that part covering alveolar process near apices, only the membrane in these areas merits the name of true mucous membrane. The gingival tissues may be divided into: the gingival crest, marginal gingiva or free margin of the gum; the gingival papillae; the cemental gingiva; the alveolar gingiva; the palatal gingiva; the gingiva covering the tuberosity. There is a marked difference in the histological structure of the gingiva and the true mucous membrane which adapts them to their different functions. The gingiva from the surface inward consists of the following structures: 1. epidermis or cuticle (epithelial tissue) divided into (a) stratum corneum (b) stratum lucidum (often missing) (c) stratum granulosum (d) stratum germinativum. 2. basement membrane. 3. dermis, corium or tunica propia divided into (a) papillary layer (b) reticular layer. 4. adipose tissue and profuse nerve supply (in palatal gingiva only). 5. periosteum (not distinguishable histologically). In true mucous membrane however, the stratum corneum of the epidermis is lacking and also the layer of adipose tissue with its nerve supply which in certain parts of the gingiva is interposed between the dermis and the periosteum. The gingiva is covered by a protective layer of keratinized cells and is closely attached to the underlying bone; it therefore can withstand considerable friction and pressure. The true mucous membrane has no such external protective layer and is separated from the underlying bone by areolar tissue; it is therefore more sensitive and is easily injured. The gingivae of the maxillae are divided into the palatal and buccal gingivae, because of their histological differences. Glands are limited to the true mucous membrane of the oral cavity, the gingiva having none.

—*C. R.*

99—Gaini, Prof. Dr. B. (Milan): **Sulle alterazioni dei tessuti periodontali nell' applicazione di corone metalliche.** Changes in the periodontal tissues due to metal crowns, in: Nuova Rassegna di odontoiatria (12): 577. 1931. Abs. Z. Stomat., xxx(11): 705. 1932.

Experiments on dogs show that, if crowns are well-constructed and well-set these

changes extend only to the adjacent tissues and not the periodontium; while badly fitted crowns cause injury to the interdental septum and to the periodontium. Histologic sections show the conditions clearly different. Well fitted crowns cause only slight irritation in a limited zone of the gingivae, while if badly fitted, metal crowns by their pressure on the *ligamentum circulare* cause marked changes in the periodontium.

—Transl. of German abstract, H. A. R.

100—Giardino, Giosué (Naples): **L'apparato del Goldmann nel dente e nel paradenzio.** The Goldmann plexus in the tooth and paradentium, in: La Stomat., xxix(7): 454-463. **July,** 1931.

The author describes a careful histologic study on a rabbit injected every second day with trypan blue. After the eighth injection, the animal was killed and the jaws fixed for 24 hours after the Pianese method using Ringer's solution, (2 g. sublimate, 0.10 g. chromic acid, 10 cc. formalin and 5 cc. trichloracetic acid, 1½ g. potassium bichromate).

The presence of the Goldmann plexus in pulp and paradentium was demonstrated; in the pulp there was a difference in thickness of the reticulum near molars and front teeth. Biological conclusions could not be drawn from this research.

—Transl., H. A. R.

101—Gottlieb, Bernhard: **Paradentalpyorrhoe und Alveolarpyorrhoe,** in: Fortschr. d. Zhkde, vii(5): 397-431. 1931. Abs. Schwz. Mschr. d. Zhkde, xli(8): 918-920. 1931.

Analysis of the works (of the year) treating of gingival pockets and tooth eruption. Continued opposition between the Innsbruck-Oslo-Breslau, and Vienna schools; happily, its tone is somewhat calmer. Specially aimed at is a work of Becks. Statements by Häupl in the Dictionary of Dentistry discussed and set right. Regarding the question of cement deposition, it is important to know what the articulation of the tooth concerned has been during its life; it must also be noted that the cement deposition is independent of tension and traction forces while the bone reacts to them at once. Further, analysis of the subjects of diffuse atrophy and metabolic disturbance, prophylaxis and therapy (Dunlop method). A comprehensive abstract would lead too far. Every dentist should familiarize himself with this field and read the statements in the original articles.

—Transl. of Ger. Abs., H. A. R.

102—Gottlieb, Bernhard and B. Orbán (Vienna): **Die Gewebsveränderungen bei Neberlastungen mit besonderer Berücksichtigung von Alter und Konstitution.** Tissue changes in excessive occlusion with special reference to age and constitution, in: Ztschr. Stomat., xxix(4): 370. 1931.

Clinical experience shows that young patients withstand the influence of traumatic occlusion better than do those more advanced in age. This is confirmed by histologic research on animals. These researches also showed that a different relation exists between the root surface and the inner wall of the alveolus on the "tension side." As a rule no cement substance was laid down on this side.

—A. H. M.

103—Häupl, Karl (Oslo): **Ueber funktionell-mechanisch und traumatisch verursachte Gewebs-veränderungen im Paradentium.** Concerning mechanico-functional and traumatic tissue changes in the paradentium, in: Paradentium (3): 89-94. Z. Rdsch., xl(28). July 12, 1931.

Regulation of tooth growth is effected generally by apparatus which acts mechanically on paradental tissues. This action is seldom unmixed, since the apparatus as well as the teeth are exposed to the force of mastication. Generally speaking a tissue rebuilding is caused by the orthodontic apparatus, which, as far as possible proceeds physiologically. During this resorption the tooth changes its place and comes to rest securely in the new position only when the paradental tissue has taken on a practically functionating structure.

But, by use of powerful appliances, changes in the paradentium may take the form of a severe paradentitis with resorptions of the bone, and on the tooth surface. These resorptions indeed may work no lasting harm but may, as Häupl has shown, be secondarily repaired by change in the outer mechanical effect; at the highest grade of this mechanical effect, orthodontic appliances may lead to necrotic changes.

—Transl. from article, H. A. R.

104—Hill, Thomas J., D. D. S.: **Regeneration of periodontal membrane after root curettement,** in: D. Cosmos, lxxiii(8): 799-801. Aug., 1931.

This article is a report of a case in which a tooth was extracted four and one half years after apicoectomy. Photomicrographs are shown to prove that a new cementum was deposited over the remnants of the old and a new periodontal membrane attached the tooth to its alveolus. There was no microscopic evidence of infectious inflammation.

—*W. Y.*

105—Katz, Dr. Asari (Leningrad): **Architektur des unterkiefers im zusammenhang mit der Lage der wurzeln und der widerstandsfähigkeit des zahnbogens beim erwachsenen.** Architecture of the mandible in accordance with the position of the roots and the capacity for resistance of the dental arch in adults, in: Vrtljhrsschr. f. Zhkde, xlvii(2): 85-108. (3): 214-249. 1931.

The periodontium as a whole, viewed in its biologic aspect, joins together the root with the bony socket and serves as a soft lining which transmits and distributes the occlusal stress to the tooth and the socket. The fluid content of the periodontium tempers and diminishes the occlusal stress of the tooth in transmitting it to the bony socket.

—*Transl., H. A. R.*

106—Kellner, Ernst, M. D. (Vienna): **Influence of function on width of peridental membrane, and cementum in regard to function,** in: Jour. Dent. Res. xi (3):511-512. June, 1931. Prelim. Abs.

The author discusses "apposition" of cementum on root surfaces. According to Gottlieb, the apposition of cementum represents a process of necessary repair for maintaining the width of the peridental membrane, as well as to compensate for the growth of the teeth. This explains the greater width of the cementum at the root apex and in the bifurcations; which increase Häupl, Bauer and Lang explain erroneously as due to increased concussion. Dr. Kellner confirms the processes assumed by Gottlieb and his school in material consisting of 2 impacted teeth; 2 homologous functioning teeth; 7 teeth without antagonists; and 7 normal teeth (strongly ground down). In the impacted teeth, surely not exposed to concussion, width of cementum is greatest at the apex, greater in the unantagonized; thus showing that increase in width of cementum cannot be explained by function.

The width of the peridental membrane is usually less in impacted teeth; hence the author distinguishes a pathological, a physiological and a biological width; the physiological width is found in teeth fully functioning. The biological or smaller width is the "mutually respected distance" maintained between the alveolar bone and the cementum, and found in purest form in impacted teeth.

—*Copy.*

107—Kolb, Dr. Hermann (Wiesbaden): **Capillarphotographie bei Paradentose.** Microphotography of the capillaries in paradentosis, in: Paradentium, iii(5): 150-159. 1931 and iv: 16-20. 1932. Z. Rundschau, xl(2): 1931.

(Chap. I.)

The article includes, 1—a review of the literature, 2—study of form and development of capillaries, 3—structural diagnosis, and 4—description of research methods. The numerous illustrations are both schematic and photographic. The method of investigation consists in examining the capillary layers of the nail fold, lip or gingivae, by means of a jeweler's eyepiece with a light passing through a slit by a special lamp (Spaltlampe), or a specially devised high power microscope and a strong light. The photographs are taken through the microscope and each shows the condition of capillaries in one layer or plane only. The technique of photographing the capillaries of the gingiva is difficult and liable to misinterpretation because the strong light on the area of examination quickly produces hyperemic changes which mask the original condition. For diagnostic purposes the jeweler's eyepiece is sufficient for gingival examination.

(Chap. II.)

Agreement of capillary forms in finger and lip were not always present. Jaensch who made a morphologic classification, found in eleven cases mesoforms, in six cases new growth forms, and in three cases archiforms. Entirely new capillaries did not appear in the lips.

The author concludes that the clinical usefulness of the capillary findings, at least so far as paradentosis is concerned, is very small.

—*H.J. L.*

108—Kronfeld, Rudolf, M. D.: **Beitrag zur Kenntnis der Heilungsvorgänge nach Zahnfrakturen.** Contribution to the knowledge of the healing processes after dental fracture, in: Z. Stomat., xxix(4): 418-426. 1931. Abs. Schwz. Mschr., xli(6): 717. 1931.

Author's summary:

After a traumatic fracture of a part of the cementum, the resulting crack becomes filled with lymph from the periodontal connective tissue, fibroblasts and wandering cells proliferate into the culture medium of the tissue culture. The fibroblasts form a network of fibrillae and in this way connective tissue and later on cementum is built up and the fracture is repaired.

—*Copy.*

109—Kronfeld, Rudolf, M. D.: **Histologic study of the influence of function on the human periodontal membrane,** in: J. Am. Dent. A., xviii(7): 1242-1272. July, 1931.

Author sectioned and studied jaws of a man aged 38 (material obtained by necropsy), in which varying functional conditions were found in different teeth according to the presence or absence of antagonists. In actively functioning teeth it was found that the heavy function acted as a stimulus to the periodontal membrane which was found histologically to consist of dense strong fibre bundles, the teeth adapting themselves thus to the great amount of stress to which they were subjected. The distribution of the fibres on the tooth surface corresponded to the direction of force, as determined by studying the occlusion. No direct influence of function on the gingival margin could be noted. Lack of function caused an involution of the periodontal soft tissues and atrophy of the bone. The poorly developed periodontal membrane consisted merely of loose connective tissue almost without fibre bundles. On the roots were large areas of resorption partially repaired and other areas in which resorption was in active progress.

In a lengthy discussion Herman Becks contended that some of conditions shown in photomicrographs were pathological pictures of true paradentoses (according to Weski's definition) but Kronfeld considers the thickening of periodontal membrane merely a healthy functional hypertrophy comparable to the strong and hypertrophic bone and muscles of the well-trained athlete.

Author's measurements of the comparative width of periodontal membrane of functioning, partly functioning and functionless teeth is in agreement with findings of Kellner and Klein who, as well as Kronfeld, are emphatic on the point that with functioning teeth there is always thick periodontal membrane and with functionless teeth, thin membrane. In his "Conclusion" Kronfeld says, "Findings indicate that we are mistaken if we draw any general conclusion concerning the influence of overfunction on the teeth. We have always to consider the way in which the periodontal tissues are able to react to this increased stimulus. The jaw described above belongs to the type that Gottlieb calls 'well-reacting.' Therefore, the heavy excess stress on some of the teeth did not cause damage. The same or perhaps a smaller amount of stress exerted on 'poorly reacting' teeth might have brought about severe damage and loosening of the teeth. It is not the amount of stress or function that is responsibile for the final outcome and fate of the teeth, but the way in which these teeth and their surroundings react to such stress."

—*C. R.*

110—Kronfeld, Rudolf, M. D.: **The importance of normal and pathologic tissue changes to the pyorrhea problem,** in: D. Cosmos, lxxiii(8): 777-779. Aug., 1931.

This article covers quite briefly the necessity of the proper understanding of tissue changes as follows:

1st—In early childhood the border line between the incisal portion of the crown that is erupted and the gingival portion that is not yet erupted is formed by the bottom of the gingival crevice.

2nd—Between the second and third decade of life this process of detachment of the soft tissues from the enamel reaches the cemento-enamel junction.

3rd—In older persons we find a part of the root surface exposed and the bottom of the crevice located on the cementum.

Pathologic Tissue Changes:

1st—We find deeper pockets that are not yet pathologic—so long as they are kept clean and lined with intact healthy epithelium.

2nd—The epithelial cover may become de-

fective and break, allowing round cells to pass through and appear on the surface as pus.

3rd—One of these changes is abrasion by mastication, every tooth moving slowly toward the occlusal plane out of its alveolus.

The author mentions the changes due to malposition or loss of antagonist. Pocket formation due to drifting or pathologic wandering. Some teeth will withstand almost any stress and still be healthy; in other persons teeth under less stress become loose.

—*J. L. W.*

111—Landsberger, Richard: **Alveolaraufsatz (insessus alveolaris).** The alveolar process, in: Z. Rdsch, xl(27): 1177-83. 1931.

This article is a rebuttal of criticisms of the author's work by various other research workers, and is highly controversial.

—*H. A. R.*

112—Lartschneider, Josef. Prof. Dr., Linz a. d. Donau: **Epithelansatz und Zahndruchlruch,** in: Vrtljhrsschr. f. Z., xlvii(3): 366-70. 1931.

1. Physiologic eruption is a "crown" eruption.

2. Even in the 36th year of life, teeth are met with which have just erupted through to the ligamentum circulare dentis (Kölliker). Nothing hinders the assumption that this may occur in still later years of life.

3. From a physiologic continuous (Etappenlos) eruption from the tooth crown to complete externalization in Gottlieb's sense, there can be no question.

4. The epithelial tear (rift, crevice), is a physiologic conception referable to the fact that, at the opening of the gingival pocket, the *stratum corneum* of the epithelium of the pocket wall, because of its horny stiffness cannot raise itself simultaneously with the deeper layers of the pocket wall epithelium from the tooth surface and therefore, remains loosely lying on the tooth surface as a cuticle fitted together out of parakeratotic horny cells (secondary enamel cuticle of Gottlieb).

5. The attached end of the epithelial cleft (epithelial pocket floor) is not, as has been taught, the floor of the gingival pocket, but the beginning of the unattached portion of the gingival pocket.

6. The pocket floor during crown eruption remains in situ until the crown eruption is completed.

7. After the completion of tooth eruption, i. e., physiologic eruption, the floor is found higher up on the tooth neck, according as the ligamentum circulare (Kölliker) passes over on the cervix, or, as often happens, farther up into the crown-neck region of the enamel surface.

8. Epithelial wedge (Malassez), epithelial Ansatz (Gottlieb), epithelial seam, so-called are all one and the same thing—nothing other than the epithelium of most recent, as yet unattached portion of the gingival pocket.

—*Transl., H. A. R.*

113—Mirolli, A.: **Familial elephantiasis of gums,** in: J. A. M. A., xcvii(16). Oct. 17, 1931.

Mirolli describes two cases of gingival elephantiasis in two persons belonging to the same family, in which twelve out of twenty-nine members presented more or less marked symptoms of the disorder. He does not consider it necessary (basing his opinion on the genealogical picture) to cite the Mendelian theory to explain the hereditary nature of the disease in these two patients the study of which leads him to believe that among the manifest or latent symptoms of the physiopathology of the hypophysis one must include gingival elephantiasis. He uses the term "elephantiasis" both because it has the advantage of indicating frankly the anatomoclinical nature of the lesion, leaving open the etiopathogenic questions, and because of the dilatations of the lymphatic vessels of the papilla, which is an important histologic characteristic of true elephantiasic states. Histologic researches in one of the two cases revealed thickening of the epithelium. The author reviews all the cases of gingival elephantiasis known to him and gives a bibliography of the disorder.

114—Orbán, Balint, M. D.: (Serial) **Zahnfleischtasche und Epithelansatz.** Gingival sulcus and epithelial attachment, in: Ztschr. f. Stomat., xxix(7): 858-879, (8) 1005-1040, (12) 1359-1376. 1931.

1. Review of the literature. The epithelial attachment and the amelocemental junction.

2. Functional mechanical influence on the gingival margin and the floor of the sulcus.

3. Functional structure of the epithelial attachment.

Author's Summary:

1. Our "old conception" of the normal condition of the epithelial attachment at the amelocemental junction in youth still holds. Apparently owing to mechanical influence on the location of the amelocemental junction during development and eruption, there is often a solution of the epithelium and separation of the attached portion at the anatomical tooth neck, so that the enamel comes in contact with connective tissue. The character of the relation between the enamel surface and the connective tissue is determined by this epithelial separation; the connective tissue may remain passive; resorption of the enamel may occur; or, as is more usual, cement is laid down on the denuded enamel surface.

2. The results of Beck's researches are not such as to alter present conceptions of the epithelial attachment and its physiology. "The physiologic gingival sulcus is the cleft between the tooth surface and the epithelium arising from the loosening of the epithelium from this surface. As a preparatory stage for the separation of the epithelial attachment, signs of degeneration are found. The degeneration of the epithelium is partly due to external conditions, partly to biological processes. Intravital tears in the epithelial attachment are found at points where traumatic influences are excluded.

Mouth epithelium and enamel epithelium at the floor of the sulcus* cannot be differentiated. The epithelium on the one side of the sulcus floor is the same as that on the other. The structural difference between both epithelia is due to functional mechanical influences at the gingival margin.

The epithelial attachment does not consist of embryonal cells of enamel epithelium but of epithelial cells in no way to be distinguished from those of the *stratum spinosum* and *germinativum* of ordinary pavement epithelium. The finger like proliferation of the epithelium along the cement differs in no respect from the epithelial attachment at the enamel border.

The cemento-enamel junction is regarded by the author as without significance after or before the completion of the biologic process of eruption. This region has only one evolutionary anatomic meaning; namely, that at this point the anatomic crown ends and the anatomic root begins. The floor of the gingival sulcus is a temporary halting place in the course of the continuous eruption.
*in the functioning tooth.

3. Structure of the epithelial attachment.

Since the epithelial attachment is on one side firmly attached to the tooth surface, and, on the other, has more elasticity, different functional influences upon it produce structural effects. The innermost row of cells of the epithelial attachment which lies on the tooth surface consists of somewhat irregular cubical cells. The next rows consist of flattened, somewhat elongated cells; in this zone the intercellular spaces are found somewhat widened. Adjacent to the connective tissue, the rows of cells run in an oblique direction to the basal cells of the connective tissue itself.

When the floor of the sulcus is subjected to an appreciable trauma, a tear may appear in the epithelial attachment, in the zone where the stratum of cells is loosened by its functional activity. More severe trauma may cause tears in indeterminate directions.

The depth of the gingival sulcus is the normal result of loosening of the epithelial attachment from the tooth surface, owing to advancing degeneration of the row of cells bounding the tooth surface.

—Transl. of author's German summary,
H. A. R.

115—Palazzi, Prof. Dr. Silvio: **Alcuni concetti sull' anatomia patologica della tasca gengivale e delle paradentiti.** Some considerations on the pathologic anatomy of the gingival pockets and of paradentitis, in: Stomat., xxix(11): 775-791. Nov., 1931.

The causes determined by the author are mechanical, toxic, chemical and infective. Among the last are particularly the pathogenic germs already present in the buccal cavity. A general comprehensive review of European literature on the subject follows.

—Transl., H. A. R.

(This article is an abstract from the second edition of the author's *Handbook of Odontology*, which has recently been published. It is well considered and of value, but unsuitable for abstraction.)

116—Philipp, Dr. S.: **Kontakt, papille, Kontur. Eine kritik der Blackschen lehre vom kontaktpunkt. A propos du contact interdentaire et la languette gingivale.** On the inter-dental contact point and the gingival papilla, in: Zahnä. Rdsch., I: 537-548, 585-94. Mar. 29 and Apr. 5, 1931. Abs. Rev. Odont., lii(6): 442-443. June, 1931.

The author frankly disputes Black's theory as to the only normal condition being a "point" of contact, holding that all forms of contact occur from the simple point to a very broad surface. As long as the gingival papilla has preserved its integrity to the point of contact, entirely filling the interdental space, all these different arrangements constitute to a certain extent the protection against caries, but under the following conditions, viz:

If the cross section of teeth involved is triangular the "point" of contact suffices.

If the section is elliptic, this is only admissible if the teeth meet at the extremity of the ellipse.

In case of a quadrangular section only a "surface" contact is favorable. In fact Philipp demonstrates that *all* space allowed to remain between the contact and the papilla is fatal, leading to the death *(caries recidiva)* of the papilla itself.

—Transl. of abstract, H. A. R.

117—Preissecker, Otto, M. D. (Univ. of Vienna): **Influence of experimental disuse on the peridental membrane,** in: Jour. Dent. Res., xi(3): 518-519. June, 1931.

Molars on one side of the jaws of young albino rats have been extracted and the animals left alive for six months. The width of the peridental membrane of the teeth without function became about half of those in function. There is a biological width and a physiological width of the peridental membrane. The biological width is that which we find in teeth without function, and this is always less than the physiological width in normal functioning teeth.

—Copy.

118—Schram, W. R., D. D. S., M. S. D.: **Pathologic changes in exposed alveolar bone,** in: Jour. Dent. Res., xi(3): 468-9. June, 1931.

In securing material for a histologic study of bone repair after tooth removal, interesting information was obtained through an error in technique which was followed by faulty healing. Sutures were prematurely lost in a surgical removal wound, and at 42 days, when the tissue was removed for sectioning, it was found that the bucco-muco-periosteal flap had sagged away from the socket. A clot had not formed and the epithelium, instead of growing across the socket, grew down, lining the flap, leaving the bone exposed to the fluids of the mouth. We obtained, thereby, a section showing the progress of bone pathology and repair in the same tissue. Epithelium had grown down, completely lining the soft tissue flap and covering the soft tissue overlying the bone of the lingual side. In the body of the wound there was a great deal of débris, and many small spicules of dead bone were being cast off as sequestra. Where living bone had been exposed, evidence of definite bone degeneration was apparent. In many areas, where bone destruction had evidently taken place previously, there was filling-in with connective tissue, active reorganization of soft tissue, and evidence of new bone being laid down along the margins of the adjoining old bone.

—Author's abs.—Copy.

119—Skillen, William G., D. D. S.: **Normal anatomic and physiologic gingiva and its relation to pathologic processes,** in: J. Am. Dent. A., xviii(4): 600-615. April, 1931.

Over a century and a half has passed since the days of Fouchard and Bourdet yet apparently little progress has been made towards solving the problem of pyorrhea or its treatment. A new plan of attack is recommended —a plan based on as definite an anatomic and physiologic normal as it is possible to attain. Regarding the gingiva there seems to be no generally accepted normal as a basis for the study of pathologic processes. A resumé of the views of the most important writers on the subject is given, starting with Gottlieb to whom he gives "credit not only for adding materially to whatever little knowledge may have existed but still more for arousing a dormant interest and curiosity in this and allied subjects." Others whose work is quoted are Becks' (at some length), Orban and Köhler, Haüpl and Lang, Weski, Max Schniter, James and Counsell, Harold K. Box, Rudolf Weber and René Vincent. This resumé alone is well worth reading. The varied views cited serve to show how ill defined is the basis for study of abnormal proc-

esses in the investing structures of teeth and it seems probable that it is this indefiniteness which has delayed and hampered investigations. The so-called ideal arrangement (of Gottlieb) is cited as the nearest approach to normal to be had today; in this the epithelial attachment, the remains of the enamel organ, to all appearances is attached to the enamel; there exists no pocket (crevice), the epithelial layer terminates at the cemento-enamel junction and is relatively thin. The mouth epithelium grows slowly downward behind the epithelial attachment bringing about a considerable thickening of the tissue on the tooth side of the gingiva. The epithelial attachment then atrophies but remains in continuity with the tooth surface on the one side and with the proliferated mouth epithelium on the other. Neither separation nor desquamation occurs and there is no inflammation. These seem to be fairly a part of the normal picture but there remains much yet to be settled; as for example the meaning and status of epithelial proliferation along the root and the question as to whether the keratinization of the proliferating mouth epithelium is to be considered normal or the contrary.

It is seen that only the skeleton of a tentative anatomic and physiologic normal exists and while it is conceded that it is most difficult to draw a sharp line between the normal and the abnormal, the author thinks that no effort should be spared in the establishment of as complete a normal picture as possible.

Photomicrographs illustrating the article are mostly from lower animals, it being conceded that it is almost impossible to find in available human material the theoretical "ideal" condition.

—*C. R.*

120—Skillen, W. G., D. D. S.: **A contribution to the anatomy and pathology of the human gingiva,** in: Jour. Dent. Res., xi(5): 727-744. Oct., 1931. See prelim. abs., ibid (3): 483-4. June, 1931.

Histological study of certain human material showed that apparently a gingival pocket (crevice) did not exist, even in advanced age or where so-called recession had occurred. This lends some support to the idea that perhaps such a structure should be considered a defect rather than a normal characteristic of the gingivae. In some instances the existing inflammation was traceable to very shallow pockets; in others, in the absence of pockets, to defects in the mouth epithelium. So-called recession, shifting of the epithelial attachment or eruption of the teeth, had occurred very irregularly. It was difficult to correlate this change and the inflammation about the teeth. Proliferation of epithelium had advanced further in some instances where the inflammation was less, or even so negligible as closely to approach normality. On the other hand, recession and pathology seemed to be related. The gingivae in some cases had crossed the enamel cemental junction without the development of a pocket or of any appreciable pathology. The same factors, whatever they may be, must be considered as taking effect at this later stage of change in the gingivae as in the earlier stages. Some of these gingivae doubtless would have appeared as clinical normals, although all showed various stages of inflammation. Measurements were made of certain features pertaining to the gingivae in these cases.

—*Copy.*

121—Tellier, Julien (Lyon): **Considérations anciennes et nouvelles sur la pathologie générale des affections gingivo-dentaires.** Old and new conceptions of gingivodental pathology, in: Revue de Stomat., xxxiii: 385-401. 1931. Sem. Dent., xiii: 991. 1931.

The diseases known under the name of pyorrhea alveolaris are characterized by the presence of destructive lesions of the supporting tissues of the teeth. One of these tissues is the pericementum. In a former work of the author, this was treated as a mixed tissue whose components—connective tissue and epithelium—are in a state of interdependence, since stimuli reaching either one of them automatically releases the reactions of the other. These reactions may be synergic or antagonistic, incoördinated or regular and restrained. Action and reaction are under the control of chemical, physiologic or biologic causes.

Since 1898 the author has considered the union of the teeth and their adnexa as forming one single region in topographical anatomy—the gingivo-dental region. This conception answers the requirements of anatomy, surgery and medicine. Subsequently to new observations, the author has come to consider the *ensemble* of tissues and organs of this gingivo-dental region as forming one composite connective tissue—epithelial organ.

This concept, more general than any of the syntheses recently proposed permits the most generally satisfactory explanation of all the pathology of the teeth and adnexa, especially alveolar pyorrhea and the general consequences of caries, and the initiation of new methods and techniques of treatment.

—*From author's résumé*—*H. J. L.*

122—Vilar-Liol, Rafael (Spain): **Les lésions pyorrhéiques. Aspects microscopiques et radiologiques.** Pyorrhetic lesions—Microscopic and radiologic aspects, in: Sem. Dent., ii: 1065-1076. 1931.

The classic change in pyorrhea is the periodontal pocket. The author shows microscopic sections of the steps leading to this result. Outstanding are the epithelial projections (processes) from the mucosa which spread out in the submucosa and are sometimes of considerable size. They vary widely in form; often they are narrow strips which penetrate deeply and give off side branches; again there are some which enlarge calyx-wise and form margins for inflammatory tissue. They may de differentiated from carcinoma, since, the further they are removed from the surface, the more are the nuclei of individual cells degenerated until finally only protoplasmic remains and cornified membranes are visible. The illustrations are numerous and of interest.

—*Transl. from article, H. A. R.*

123—Wasif, G.: **Pyorrhea, its pathology, histo-pathology and treatment,** in: Jour.: Egyptian Med. Assoc., xiv:258-264. April, 1931.

Article not obtainable.

124—Zemsky, James L., D. D. S.: **Sources of material for histological investigation of peridontal conditions,** in: D. Cosmos, lxxiii(7): 696. July, 1931.

The writer advocates procuring fresh human specimens for histological study by cutting away the teeth together with the supporting structure, particularly for patients with isolated teeth obstructing prosthetic foundations; patients with serious systemic disturbances demanding complete elimination of all possible sources of infection; in cases of cysts and other neoplasms; patients with prominent ridges and short lips.

—*A. M. H.*

125—Zilkens, Prof. Dr. Karl: **Pathologische Histologie der Zähne. "Caries interna"** (p. 304-305), in: Fortschr. d. Zhkde, viii(1): 301-317. 1932.

Translation.

Lukomsky (Befunde an einem retinierten Zahne, D. M. f. Zhkde 321, 1931) from article published in a Russian periodical describes a peculiar finding in a retained tooth. In the left mandible of a 25 year old man was apparent a thickening of the horizontal ramus. The epithelium was unchanged. Neither then or before did the patient suffer inconvenience. The Roentgen picture showed a retained molar in the depth of the jawbone, (obviously 6, the crown of which impinged upon the root of 7). A translucence was also to be seen in the radiograph. After the removal of the tooth it was seen that its cervix was attacked by an annular caries, carious and brown pigmented dentin substance being present. The enamel was undermined here and there. Upon the occlusal surface was seen fissure caries with dark pigmentation and hard, uneven dentin. Histologic examination of the sections showed picture in enamel and dentin resembling caries. In the enamel were noted in particular Cross striation of the prisms as well as numerous areas of complete dissolution of the enamel structure and extension of the prismatic intercellular spaces. In the dentin were seen microscopic cavities of a brownish, dirty-gray color. These cavities in type led one to think of caries but also of resorptions, as they have been described by other authors. These cavities should be further studied histologically, so that it could be ascertained if, in the spaces due to resorption, the bone like tissue with Haversian canals, the dentin as well as this tissue resembling bone was really attacked by caries. In other places there was plainly a halisteresis, that is, loss of calcium salts was observed. The dentinal layer in the environment of the pulp was unimpaired. Further, Lukomsky observed at the dentino-enamel boundary, the direct transmission of the dentinal canaliculi into the enamel and their progress further. In the pulp chamber deposition of secondary dentin was observed.

Lukomsky is of the opinion that the development of the carious process in an aseptic milieu presents an unusual picture, that on account of the lack of control material cannot be diagnosed with absolute certainty as caries; but which, since enamel caries is also

present can apparently be regarded as a carious process. As analogous he cites a case of Norman Black, who removed a tooth from a cyst, which was likewise attacked by annular caries. In spite of thorough study and much thought, Black came to the conclusion that the affection was a true caries although the tooth was not subjected to external influences. Mummery, who studied Black's specimens, denied the assumption of caries but explained that here an unusual combination and resorption was being dealt with.

It is not easy to finally evaluate the findings of Lukomsky in spite of the numerous pictures. It is foreign to our conception of the essence of caries to consider the foregoing process as carious. I am much more of the opinion that it is a matter of one of the resorptive processes in retained teeth often observed by us, where perhaps a specially strong acid formation causes peculiar pictures in enamel and dentin. Likewise I am not yet ready to commit myself that here we have a genuine case of "internal caries."

—Transl. of Zilkens, re Lukomsky.

126—Heddema, E. H. (Amsterdam): **Histologie und Pathohistologie des Paradentiums. Histologie en patho-histologie van het paradentium.** Histology and pathohistology of the paradentium, in: Tijdschr. voor Tandheelk (Holland), xxxiv(2): 96. 1927. Abs. Dtsch. z. Wchnschr, xxxi(23). 1928.

By the term "paradentium" is understood the tissue complex, gingivae, periodontium, cementum, and alveolar process. Strictly speaking, the term "parodontium" would be more correct. The normal histology being sufficiently familiar, this article is occupied only with special peculiarities. The works of Black, Gottlieb and Köhler are noted and 15 microphotographs illustrate the text.

In a simple clinical swelling of the interdental papilla, osteoclasts are shown at the alveolar crest; by stronger magnification, osteoblasts are seen in the periodontal space. Another section from a 25 year old individual shows a severe infiltration in a swollen interdental papilla with a down growth of epithelium everywhere along the root surface; bone intact, osteoclasts absent; various epithelial nests present in the periodontium.

A bucco-palatinal section is shown of an upper first molar. On the buccal margin was a large concretion of tartar, disclosed in process of decalcification. At this point is seen extensive infiltration of granulation tissue. Epithelium not proliferated downward. Bone degeneration recognized by the presence of osteoclasts.

In his further discussion, the author maintains that the bone destruction is not wholly explainable by the osteoclastic theory. A number of illustrations are clearly demonstrated, without conclusions being drawn from them. This author recently (1926) published an article on the relation of changes in the paradentium to pyorrhea, which was criticized by Gottlieb.

—Transl., H. A. R.

(b) Periodontal Bacteriology

(Continued from July, 1932, Page 119)

29—Dean, R. B., B. S., D. D. S., M. D. With M. T. Dean, B. S., M. D. and M. F. Gridley, B. A.: **An unidentified organism exhibiting cultural characteristics similar to those of the bacillus fusiformis,** in: Jour. Dent. Res., xi: 877. Dec., 1931.

Cultural observations of the organism described in this paper indicate that it goes through a complex life cycle, which would place it in a higher class than that of a simple bacterium.

The general characteristics of the cycle of this organism are so much like those of the *b. fusiformis,* that it would seem to fit into the same class.

The spores may be air-borne and so widely disseminated that they become a contaminating agent, being found in dry agar and other dehydrated materials.

—A. M. H.

30—Klein, Jacob, M. D.: **Experimental granuloma induced by infection with B. fusiformis in pure culture,** in: D. Cosmos, lxxiii: 884-887. 1931.

This author grew *b. fusiformis* in pure culture and describes the technic. He finds no evidence to indicate that the spirillum develops from the bacillus as claimed by Tunnicliffe.

Experimental data is given in detail as to the effect of injecting and feeding the pure culture of *b. fusiformis* to five dogs. A control animal was kept.

The conclusion was that there is definite

clinical evidence to indicate that *b. fusiformis* is intimately related to agranulocytosis, mononucleosis, and leukemia. The exact nature of relationship is not known and offers a field of research.

—*W. Y.*

31—Vincent, Réné: **L'hémoculture gingival. Ses conséquences pathogéniques, anatomopathologiques, doctrinales et thérapeutiques dans la pyorrhée alvéolodentaire,** in: Rev. belge Stomat., xxviii: 147-172. 1931. Reviewed in D. M. f. Z.: 133. Feb., 1933.

Pyorrhea in regard to its pathology is not yet sufficiently investigated. A constant early symptom of pyorrhea is an alveolysis running a septic or aseptic course. The aseptic form we know as paradentosis; it depends chiefly for its origin on endocrine imbalance. In the septic form we have marked suppuration which leads to the destruction of the soft parts. In diabetes we find mixed forms. The definition of pyorrhea as a "progressive destruction of alveolar and paradental tissues with suppuration" is true only of the septic form. Many authors regard this form as true pyorrhea. In what follows the author concerns himself chiefly with this form.

The penetration of bacteria into the gingivae occurs through the blood or lymph circulations. It must be further noted that the capillaries of the artery maxillaris end at places which are the usual seat of pyorrheal infection; upper and lower gum, upper prenolar. Here may be found streptococci, staphylococci, enterococci. It is an interesting fact that persons who show a tendency to Bismuth stomatitis also show a predestination to pyorrhea. Hereditary influences evidently play a role here.

In one hundred gingival cultures the author found streptococcus viridans and hemolyticus, staphylo—and enterococci, once bacterium coli. In a number of cases a distant focus of infection by the same microbe may be established, for example in furuncles, mastoiditis, dacryocystitis, appendicitis, salpingitis, etc. In these cases the pyorrhea is to be looked upon as the infective factor. On improvement of the pyorrhea, the metastasis usually recedes.

Case of 51 year old patient cited, operated for cholecystitis; from the pus, hemolytic streptococci were cultured, which alone were found in the pyorrheic gum. The patient was treated with an autovaccine and recovered.

The results of autovaccine treatment are sometimes favorable, specially in secondary foci and when the course of disease is not too swift. Still, the author has seen in very severe cases, as he shows by examples, long lasting remissions due to autovaccine. On the heels of the gingival inflammatory process osteolysis follows, usually beginning in the bony septa on the lingual surface of the alveolus. Retterer finds the lymphoid elements present here etiologically responsible for this. In the radiographs of Fleischmann and Gottlieb, taken at the stage of gingival congestion, we find neither suppuration nor epithelial lesions; but later small pus foci in the ligament, gingivae, periosteum and bone. The author distinguishes three zones in pyorrheic tissue; a central zone in which many pus cells and bacteria are present; a median zone in which both pus and bacteria are increased; and an outer zone of inflammation.

At the close of his work, the author discusses the local methods of treating pyorrhea; excision of the pockets, curettage, roentgen irradiation, through which the inflammatory zone of the pockets is destroyed and the deeper tissues become cicatrized; ion(t)ophoresis, the results of which were not bad. Very surprising are the results of an injection of one or two drops of a mixture of colloidal copper with gold into the pockets. Its action is both sterilizing and sclerosing. In two or three sittings, the inflammatory appearances recede, the gingival color returns to normal, the smaller pockets of one or two mm. in diameter vanish. Whether or not the effects are lasting the author cannot say since his periods of observation have been too short. Cases checked up after several months, however, show no local foci of inflammation and the gingival cultures remain negative. The injection is painful at the beginning but the pain lessens as healing progresses.

—*Transl. from article, H. A. R.*

(c) Other Laboratory Researches

(Continued from July, 1932, Page 124)

36—Becks, Herman, M. D., D. D. S. and Moritz Weber: **The influence of diet on the bone system with special reference to the alveolar process and labyrinthine capsule,** in: J. Am. Dent. A., xviii: 197-264. Feb., 1931. Abs. Int'l Dent. Rev. i(2): 78-79. Feb., 1931.

This exceedingly valuable article is a report of a research on 33 young dogs which were placed on purified diets, the ingredients of which were all known. The time the dogs were kept on these diets averaged 5 ½ months, the longest period being nine months. Twelve different diet mixtures were used, testing the effects of cod liver oil (vitamin D) and its lack, calcium and its lack, and acid, neutral and basic ash. The animals were killed at the end of the experiment and studied for bone changes, dental and paradental changes and changes in the labyrinthine capsule of the ear. Biochemical studies of the animals were made but not reported in the article. From the data it is shown that several diseases with distinctly differentiated characteristics are found which are invariably produced by definite diets. The animals on the diet adequate in all known respects except for lacking cod liver oil (vitamin D), all showed osteoid tissue in the jaw bone and developed definite osteoporosis. Those on diets low in calcium without cod liver oil (vitamin D), produced a definite picture of osteitis fibrosa of Recklinghausen with the pseudo—("brown") tumors and cysts of the jaws typical of this disease.

The ash reaction of the diet appeared to be without effect. The results have made it possible to disclose for the first time a relationship between the alveolar process and the general osseous system; and also to recognize the involvement of the labyrinthine capsule in generalizing bone involvement. The destructions in the alveolar bone were more extensive than in the general bone system, probably owing to the traumatic influence of the occlusion. Where the alveolar bone was destroyed the teeth became loose, the peridental membrane lost its characteristic strucure; and frequent and extensive absorptions of the tooth roots occurred. Granulation tissue infiltrations of the gingiva occurred markedly on the diets where adequate salt mixture without cod liver oil was used, and where the diet was low in calcium. Definite pyorrheic symptoms did not develop in any of the groups presumably because of the youth of the animals.

Three different forms of genuine paradentosis have been produced in dogs:

1. a true osteoporotic form;
2. two forms of osteodystrophia fibrosa
   a. a hypo-ostotic porotic form
   b. a hyper-ostotic porotic form;
3. a scorbutic form.

All of these experimentally produced forms of paradentosis show an involvement of the entire osseous system and are an expression of a general metabolic disturbance.

This article is an outstanding contribution in the field of periodontology and should be studied in the original. It is profusely illustrated with photographs and photomicrographs and an excellent bibliography is appended.

—*H. J. L.*

37—Becks, Herman, M. D., D. D. S.: **What factors determine the early stages of paradentosis (pyorrhea)?,** in: J. Am. Dent. A., xviii(5): 922-931. May, 1931.

The author bases his discussion on the work of his research group in San Francisco, which is following the lead of the European Paradentosis Research Group on the relationship between the behavior of the paradental tissue and that of the whole organism, including not only the local but the general constitutional factor in the many cases of so-called pyorrhea (paradentosis). He is careful to distinguish between marginal paradentitis or "gingival catarrh" and genuine paradentosis. "One is a disease which originates in the gum tissue in the form of a gingivitis; the other originates in the bony alveolus, perhaps in the form of an osteopathy."

His conclusions are as follows:

1. The bottom of the pocket will always be found at the point where the mouth epithelium joins the degenerating enamel epithelium. Parts of the enamel epithelium may still be connected with the tooth surface.

2. A continuation of the hornified surface of the mouth epithelium over the tooth surface as described by Gottlieb does not exist. There is an interruption at the bottom of the pocket caused by degeneration of the enamel epithelium, and this area represents a locus minor resistentiae for infection.

3. A simple loosening of the enamel epithelium from the surface of the tooth during its eruption, as well as the pocket formation, as described by Gottlieb, does not exist.

4. The movement of the bottom of the pocket toward the apex is determined by the progressive degeneration of the enamel epithelium. The pocket formation is due to a separation of the surface of the mouth epi-

thelium from the basal layer of the degenerating enamel epithelium.

5. Under normal conditions, the bottom of the pocket is always to be found on the surface of the crown. A definite statement cannot be made as to the age at which the degeneration of the enamel epithelium is completed. The slower the degeneration of the enamel epithelium, the more favorable the conditions for the tooth.

6. When the bottom of the pocket has reached the cemento-enamel junction or has passed it, in all cases which have been observed up to the present time, a pathologic process is responsible; either an inflammation or a disease of the whole organism or even a constitutional factor.

These degenerative changes as described in the region of the epithelial attachment play an extremely important role in the pathogenesis of paradentosis.

In the discussion of the constitutional and internal factors which, doubtless, according to current belief, determine to a significant extent the development of paradentosis, it can be noticed that our pathogenic and etiologic assumptions are as yet not wholly substantiated. Only through intensive work along the lines suggested by the questions brought up, will we succeed in the course of time in establishing certain uniform etiologic-pathogenic clinical types of paradentosis which will be readily recognized by both the dental and the medical practitioner. Diagnosis and therapeutic measures will then be more successful than at the present time.

—*H. J. L.*

38—Becks, Prof. Dr. Herman: **Mund-und Schmelzepithel in ihrem beiderseitigen Verhalten zur Zahnoberfläche.** The epithelium of the mouth and of the enamel in their two-fold relation to the tooth surface, in: Paradentium ii: 52-74; Z. Rundschau, xl(15): 1931.

In the present article the author believes he has offered conclusive arguments against the teachings of Gottlieb in regard to the

1. physiological separation of the enamel epithelium from the tooth surface;

2. the continuous eruption of the teeth;

3. the claim for changes in the vital resistance of the cementum surface as a cause for the epithelial downgrowth.

His epithelial findings and their interpretation differ from those of Gottlieb on these points. But Becks feels that it is Gottlieb's desire that it be established whether the law of continuous eruption formulated by him and the questions related to it, are true or not,—even if they must be answered in the negative.

—*Transl., H. A. R.*

39—Breitner, Carl (Vienna): **Experimentelle Veränderung der mesiodistalen Beziehungen der oberen und unteren Zahnreihen.** Experimental alteration in the mesio-distal relations of the upper and lower rows of teeth, in: Z. Stomat., xxviii(2): 134-154. Feb., 1930. Abs. Brit. Dent. J., li: 535. 1930.

It has been assumed that in intermaxillary traction the lower teeth are brought forward in cases of Angle Class II. To test the truth of this statement, Doctor Breitner carried out a series of experiments on Rhesus monkeys. Metal caps were cemented on the teeth of the lower jaw on both sides from the first molars to the canines, buccal tubes were soldered to these caps into which a labial arch was inserted resting against the incisors and bound to them by ligatures, but not in such a way as to prevent tilting of these teeth. Hooks were soldered to the first molar caps with the opening to the back for the attachment of rubber rings. The corresponding teeth in the upper jaw were capped with tubes for the insertion of an arch, but the latter did not touch the incisors, which were entirely free; hooks were soldered to the canine caps with the open ends facing forwards for the attachment of the rubber rings stamped out of rubber dam to provide as weak a traction as possible. After eighty-two days a distinct mesial occlusion developed, in one case as much as a Class III. The animals were killed and the condition of the joint examined, as well as that of the angle and the alveolar process of the mandible. The bone of the joint on the mesial side of both the fossa and the condyle showed absorption lacunae, while on the distal side new bone was being laid down, as evidenced by the reorientation of the bone lamellae and the seams of osteoblasts. There was no change in the size of the condyle since there was a balanced absorption and deposition. As the head of the condyle rested in the glenoid fossa, it is evident that only the lower row of teeth had moved forward; actually a change in the shape of the lower jaw had taken place. This was further shown by the changes taking

place at the angle of the jaw and in the alveolar bone. The whole arch of the lower jaw had moved forward, through a growth in length of the jaw brought about by these changes.

—*Copy.*

Dr. Breitner, continuing his experiments on the effect on the tissues of the application of force, gives the results on the teeth, alveolar bone and temporo-mandibular joint of what he terms endogenous forces acting through the muscles. He utilizes Kingsley's treatment (Cosmos, 1892), so-called "jumping the bite." Caps designed with inclined planes were applied to the molars of a rhesus monkey in such a way that when the mouth was shut the raised part of the planes on the upper caps met the raised part on the lower caps, thus raising the bite. The jaws could only be closed when the lower jaw was pushed mesially. No other apparatus was used. After wearing the caps for forty-six days the animal was killed. All the teeth, the joints and angles on both sides of the jaw were examined histologically and the results compared with the previous experiment where intermaxillary traction by means of caps and hooks to which india-rubber rings were attached was the form of force applied. The same transformation of bone was found at the joint, on the head of the condyle and the glenoid cavity—that is, deposition on the tension side and absorption on the pressure side—and reconstruction at the angle of the jaw, which became more obtuse. But the difference on the alveolar bone was more manifest in "jumping the bite," where the great destruction of the bone of the tooth sockets, as well as immediate considerable movement of the teeth themselves, took place. These results were obtained solely by stimulating forces inherent in the organism, and by no use of extraneous ones.

Z. Stomat., xxviii(12): 1195-1207. Dec., 1930.

Abs. Brit. Dent. J., li: 1170. 1930.

—*Copy.*

40—Breitner, Carl: Experimental changes in the mesiodistal relations of the upper and lower arches. I. Mesial shifting of the mandible by intermaxillary rubber ligatures, in: Ztschr. f. Stomat., xxviii(2): 1930. Serial: pp. 134-154, 620-635. J. Am. Dent. A., xvii(12): 1190. 1930, and 1195-1207: xxix(4): 343-356. 1931.

The changes that occur in the bone around a tooth that is moved orthodontically have been thoroughly studied in experiments. Up to this time no one has shown what changes take place if the entire mandible is moved forward or backward by orthodontic appliances (intermaxillary ligatures). Therefore, this paper is of outstanding interest to the orthodontist.

Breitner's experiments were made on monkeys. The upper and lower arches of the teeth were each made an immovable unit by means of bridges which were connected by intermaxillary ligatures in order to force a mesial movement (protrusion) of the mandible. The experiments were continued for about three months. After this time, a considerable mesial displacement of the lower arch could be observed, corresponding to Class III (Angle). Then the monkeys were killed and the jaws and the joints sectioned mesiodistally. The slides showed that the mesial displacement of the lower arch took place in three different ways; by mesial movement of all teeth used for anchors; by an increase of the length of the mandible, a result of the new arrangement of the bone at the angle, at the ascending branch, and at the condyle, and by mesial displacement of the mandible by mesial wandering of the glenoid fossa. All these changes occur simultaneously, and it is not possible to influence or to produce one of them separately. By a proper arrangement of the forces applied, it is possible to influence especially the bone changes at a certain spot. The action of the intermaxillary rubbers is independent of the individual case; i. e., the same bone changes under the influence of a certain force are found in normal and in pathologic positions of the jaws.

—*Kronfeld*

Part II: **Jumping the bite.** J. Am. Dent. A., xvii(10): 1966. Oct., 1930.

This publication is the continuation of a series of experimental orthodontic investigations on monkeys, the first part of which was reviewed in the J. Am. Dent. A., June, 1930, p. 1190. The present article deals with the histologic changes following "jumping the bite." In the beginning the author discusses the question as to how far we are justified in drawing conclusions from these experimental findings in animals for the conditions found in man. He shows that the bone changes in orthodontia occur exactly as they

occur in human jaws. The "quality" of the changes is the same; whereas, the "quantity," or the "amount" of the changes may be different according to the difference in the relations between body size and forces. This is true for forces coming from the "outside" (ligatures on a monkey's tooth twisted by a human hand). But, in a case of "jumping the bite" where no outer forces act on the tooth but only the muscles of the individual, we have to expect changes that are consistent with the individual. Therefore, the changes found in a monkey in the latter case can be compared from the point of view not only of the "quality" but also of the "quantity" of the changes. The author cemented metal caps on all the lateral teeth in both upper and lower jaws. These caps had oblique planes by which the lower jaw was forced forward when the mouth was closed. This experiment was carried on for forty-six days. The histologic sections showed bone changes in the joint. These changes indicate the presence of processes of tearing down and building up, tending toward a new position of the mandible in relation to the skull. The teeth that were used as abutments for the oblique planes show marked changes, crushing and hemorrhage of the periodontal tissues. They were evidently too weak to act as a fixed point; instead, they themselves moved.

—*Kronfeld*

Part III: **Distalverschiebung des Unterkiefers mittels intermaxillärer Gummizöge.** Distal shifting of the mandible by means of intermaxillary rubber bands. Zeitschr. für Stomat., xxix(4): 343-356. Apr., 1931. Abs. Brit. Dent. J., lii(1): 599. June 15, 1931.

Dr. Carl Breitner has continued his series of experiments in the alteration of the occlusion. This third experiment is interesting as in contrast to the two former ones the lower jaw is displaced posteriorly, that is, a successful attempt has been made to produce an Angle Class II. The same apparatus is employed, namely, metal caps on the cheek teeth up to and including the canines, but in this experiment the arch is tied securely to the upper front teeth by means of strong half-round wire on the palate side passed into tubes soldered to the canine caps. The hooks in this case also were fastened to the molar caps, while in the lower these were soldered to the labial arch in the canine region. Thus the upper arch being firmly held by the caps the wire is stationary whilst the lower arch is drawn distally. The same histological pictures obtain as in the former experiments, that is, absorption on the pressure side and deposition on the side of tension with transformation at the angle of the jaw, which beomes more acute through deposition at the posterior margin and absorption at the mesial side of the ascending ramus. The teeth also participate in the changes taking place, proving incontestably that they also have moved distally in the lower jaw while in the upper jaw a mesial movement is shown. Dr. Breitner suggests that similar changes must take place in the human jaw when the chin cap is applied in cases of Angle Class III, but as these are much longer in taking effect they are not so readily appreciated.

—*Copy.*

41—Downs, Wm. G., Jr., D. D. S.: **Laboratory studies in mouth pathology,** in: J. Am. Dent. A., xviii(5): 806-816. May, 1931.

Dr. Downs has shown before the International Association for Dental Research a film, showing the necropsy procedure in use in his laboratories. For the benefit of those who did not see the film he has made a brief sketch of his procedure in this article.

His laboratory studies, in the aggregate, indicate the following:

1—In general, the periapical lesions not having a distinct outline and clear-cut form in the roentgenogram are those most apt to be pure cultures of organisms and, in particular, Streptococcus viridans.

2—The roentgenographically very clear-cut and outstanding periapical infections are more apt to be productive of mixed cultures.

3—It is, in general, the former type which are more apt to respond quickly and definitely to removal of the infected tissues where more distant symptoms are found accompanying the mouth involvement.

4—Practically all, if not quite all, of the bacteria coming from mouth foci grow better under anaerobic conditions.

5—The roentgen ray may not be relied on entirely as a basis for diagnosis, and the microscrope does not have the general usage which it deserves as a further aid in diagnosis.

6—All experimental data of this nature must be carefully scrutinized and many factors taken into consideration. Our methods

of grouping bacteria, and, in particular, streptococci, are at present not entirely satisfactory.

The author states, that the cases seen at necropsy leads to the belief that all teeth having filled root canals should be viewed with the gravest suspicion. He encourages the study of the endocrines, and also of nutritional deficiencies and concludes that dental and medical studies are, after all, phases of the biologic branches of science and must be judged in the light of a broad understanding of biologic processes.

—*S. R.*

42—Hunter, William, M. D., C. B., F. R. C. P., Hon. L. L. D.: **Clinical experiences of oral sepsis.** (Serial) IX. Prevention of gingivitis and periodontal disease. Dr. May Mellanby's experiments, in: Am. Dent. Surg., li(2): 37-39. Feb., 1931.

This article draws special attention to the important researches of the Mellanbys, a number of whose experiments are described.

43—Klein, Henry, with Orent & McCollum (Johns Hopkins): **Effects of diets low in magnesium upon the teeth and their supporting structures in the mouths of rats,** in: J. Dent. Res., xi: 484. Abs. No. 2, 1931.

The feeding of diets containing all the known essential food elements, but low in the element magnesium, resulted in severe hyperplasia or hypertrophy of the gingiva in the rat, loosening of the teeth, and excessive deposition of calculus upon the teeth, particularly the molars.

—*Copy.*

44—Kronfeld, Rudolf, M. D., and Emil Mueller: **Ein Fall von generalisierter Zahnresorption.** Generalized resorption and loss of teeth, in: Ztschr. f. Stomat., xxxix(3): 276-307. Mar., 1931. Abs., Vrtljhrsschr. f. Z., xlvii(3): 271-272. Dec., 1931.

The case described showed a progressive root resorption during almost two years, the disturbance being primary in the teeth themselves without the presence of *osteitis fibrosa*, the bone remaining sound and being built in as the teeth gradually loosened and fell out. The internal diagnosis in this case showed general neurasthenia, a labile vasomotor system and functional disturbance of the liver. After treatment of the liver conditions the teeth showed processes of repair.

The case described seems to the author a proof of the theory of Gottlieb that the teeth, after their complete formation, present a complex which is entirely independent of the osseous system. The tooth system remains on the one hand unaffected by most of the systemic diseases of the adult skeleton, while on the other hand it may give evidence of other systemic derangements in which the bony framework of the body takes no part. "It would be idle" says the author "to give a hypothetical explanation as to why, in this case, a constitutional ailment found expression only on the teeth." He does not assert that these facts had necessarily a causal relation; nevertheless certain alterations in the tooth-system cannot be explained by purely local factors.

—*Brief of abstract, H. A. R.*

45—Mellanby, Edward, M. D., F. R. C. P., F. R. S.: **Diet and Health,** in: Brit. Med. J. (Supp.), 1931 (Jan.-Je) Supp. March 21, 85-92. 1932.

The author is of the opinion, which has been reached through dietary experiments on puppies, that Vitamin A is a very important factor in the development of the epithelial tissue particularly the marginal and cemental gingivae. A deficiency of this element in the food intake of these animals resulted in an overgrowth and hyperplasia which rendered the gingiva liable to the development of periodontoclasia (pyorrhea alveolaris). If a liberal supply of Vitamin A is ingested during the developmental period the tissue becomes perfectly formed. The author makes the point and assumes that even though this food element is lacking in the dietary in later life, it is difficult to produce periodontoclasia. When an insufficient quantity of Vitamin A is ingested by a child, a deficiency in Vitamin D is usually found also; consequently, the teeth, gums and epithelium are badly formed and caries and periodontoclasia are liable to develop later. Sometimes it is found that the teeth are well formed, free frrom decay and no periodontoclasia present which leads one to assume that plenty of Vitamin D but a deficiency of Vitamin A was consumed during the developmental period.

Mellanby feels that it is too early to state that a change in diet will cure periodontoclasia after it has developed and that the great success which has been attained in the treat-

ment of dental caries by dietary changes will be duplicated in periodontoclasia cases. May Mellanby has been able to control the disease, when produced in dogs, by feeding them with a diet rich in Vitamin A and D and feels that the amount of damage already done by infective organisms precludes the possibility of a complete cure and the most that can be attained is a retardation of the progress of the disease. The conclusion is reached that if a suitable diet is ingested in early life and the tissues thereby develop normally, that periodontoclasia is not likely to be present in later life.

—*B. T.*

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March 21, 1932, Page 502.
British Medical Journal.

Editorial in the same number of the above journal states that Mrs. Mellanby's dietary experiments on puppies fed on a Vitamin A deficiency lead her to conclude that it leads to hyperplasia of the subgingival epithelium and with subsequent invasion of pathogenic micro-organisms and that a deficiency of Vitamin D results in a defective alveolar process. The importance of an adequate diet in early life is stressed and also the association between a deficiency of Vitamin A and periodontal infection. The latter is of great importance because it suggests a probable etiologic relationship in man and offers a means of prevention by means of correct feeding during infancy.

—*B. T.*

46—Rosebury, Theodor, D. D. S. and Maxwell Karshan, M. A., Ph. D.: **Pathological changes in the teeth of rats produced by synthetic diets,** in: Jour. Dent. Res., xi(1): 60. Feb., 1931.

A "synthetic" diet low in calcium and free from vitamin D was found to produce, in the teeth of rats, changes that were ascribable to deficient calcification, as follows: The odontogenic zone is abnormally broad in the dentin of both molars and incisors, and large calcified globules appear in the body of the dentin. The enamel of the molars and the fully formed enamel of the incisors are apparently normal; but the youngest enamel of the incisors and the apical ameloblasts present evidence of deformity. An alteration in the staining quality of the alveolar bone occurs. The pulps, including the odontoblasts remain normal.

Other "synthetic" diets, including a vitamin C free diet, and diets in which vitamin C was supplied by 2 cc. of orange juice per rat per day, were found to give rise to changes in the pulps and dentin of the molars only, similar in some respects to the manifestations of latent scurvy in the teeth of guinea pigs. These changes do not seem to be due to vitamin C deficiency; their specific cause has not yet been determined.

—*Copy.*

47—Urban, L. B., B. S., D. D. S., E. H. Beisler, and William G. Skillen, D. D. S.: **Tissue disturbances caused by mechanical separation of the teeth of the dog,** in: J. Am. Dent. A., xviii(10): 1943-1954. Oct., 1931.

Experiments were made on the teeth of dogs to determine effects of mechanical separators on the periodontium. Ordinary dental separators were used, force being applied slowly—ten minutes in each instance—and the separator was left in place 30 minutes and retained while animal was killed and tissues fixed. Separations of .75mm., 1mm. and 1.5mm. were obtained.

Injuries noted were tilting of teeth, tearing of the gingiva, breaks and hemorrhage in the periodontium, periodontal fibres tensed to the breaking point, and on opposite side, crushed between tooth and bone, fracture of crest of the bone. The fibres did not pull or tear away from cementum or bone, the injury and breaks usually being about midway of the interproximal tissues.

The study is being continued to determine what the healing process is like and until its completion, it is impossible to say what the after effects will be. However, from the results of experiments so far, it would seem that separation should always be undertaken with care, and excessive separation avoided, the injury being more or less proportionate to amount of separation.

Numerous photomicrographs illustrate this article.

—*C. R.*

48—Urban, L. B., B. S.: **Findings in relation to the resorption of deciduous teeth in the dog,** in: Jour. Dent. Res., xi(5): 711-721. Oct., 1931.

In an article beautifully illustrated by Photo-micrographs, the author shows how the epithelial attachment creeps toward apex of the resorbing deciduous tooth which is undergoing eruption. "This condition seems to

represent a continuous eruption of the deciduous tooth and not merely a downgrowth of epithelium," and the deciduous tooth is lost by both resorption and eruption.

He also shows injury to and infection of the surrounding tissues, caused by ragged and sharp fragments of the resorbing deciduous roots.

—*C. S. K.*

(d) Clinical Etiology

(Continued from July, 1932, Page 138)

175—Angerer-Kux, Dr. Edeltraud (Innsbruck): **Beitrag zur Frage Tumorbildender Erkrankungen der Kieferknochen.** Contribution to the problem of diseases leading to new growth formation in the jawbones, in: Vrtljhrsschr. f. Z., xlvii(3): 341-347. 1931.

The author classifies these diseases as:

1. Giant cell granulation tissue formations; or
2. Localized osteitis fibrosa of the jawbones.

Both these diseases must be regarded as secondary to inflammatory alterations of the paradentium.

176—Auerbach, Dr. Ulrich: **Paradentose und Fokalinfektion.** Paradentosis and focal infection, in: Zahnä. Rundsch., xl(46): 2051. 1931.

The number of cases of focal infection is apparently on the increase, whose origin may be traced to paradental disease. This author reports a case of patient with two pulpless teeth, marginal gingivitis and pocket formation. The author thinks much is to be gained if individual practitioners not in financial condition to devote time to research will observe and report cases treated in coöperation with internists.

—*Transl., H. A. R.*

177—Biddle, A. Graham, B. S., M. D., F. A. C. S.: **Stomatology and head infections,** in: Dental Roster, v(2): 6-7. Sept., 1931.

Dr. Jos. Schroff says that this paper should be of value to the dentist, because "it forcibly calls to his attention the close interrelationships of medicine and dentistry." In regard to pyorrhea alveolaris, the author says: "Do not expect to clear up a case of pyorrhea with the nose blocked with large turbinates, a deflected septum and lots of adenoid tissue and the tonsils filled with the germs which are emitted at regular intervals to fill up the gums and surrounding mucous membrane as fast as, and faster than they can be sterilized."

178—Bland, P. Brooke, M. D.: **The relationship of stomatology to obstetrics,** in: A. Dent. Surg., li(7): 173-180. July, 1931.

This paper purports to be limited to the theme expressed in the above title but various gynecologic conditions are also discussed having their etiologic basis in infectious lesions of the oral cavity.

The author outlines his article under the following heads:

(a) The influence of oral disease on certain functions of the female genital organs, including ovulation and fertility.

(b) The etiologic relationship of infection of the oral cavity to abortion.

(c) The effect of gestation on the oral cavity of the mother.

(d) The influence of stomatological disorders on the health of the prospective mother and the pregnancy itself.

(e) The influence of stomatologic disease on patients, post-partum.

(f) The place of stomatological hygiene as a means of prophylaxis for both mother and child.

The gingivitis of pregnancy is described as beginning about the 4th month and continuing till delivery; the gums are edematous, easily bleeding and spongy.

The teeth may loosen and drop out without fetor or salivation and often without pain. Nutrition and oral hygiene generally poor in such cases. In other cases the author notes polypoid excrescences appearing between the incisors (Monash, Zentler, Rosenstein, et al.) They are composed of chronic inflammatory tissue and may disappear after delivery, or recur with lactation.

—*H. A. R.*

179—Boenheim, Prof. Dr. F.: **La paradentosi come malattia generale.** Is paradentosis a general disease or a local condition?, in: Riforma med., xlvii: 1621-1622. Oct. 26, 1931.

—*Unavailable.*

180—Bruhn, Dr. Christian (Düsseldorf): **Der stomatologische Anteil an der Krankenhausarbeit der Zukunft.** The stomatologic share in the hospital work of the future. Special Reprint. 1931. (Geo. Thieme.)

This article deals with the place of the hospital stomatologist and includes discussion of the various fields of dentistry. In regard to what he calls "paradentosis," the author takes up the etiological factors, such as errors of position and occlusion, deposits on the teeth and endogenous factors. Among the latter he lists disturbances in nutrition, chronic infectious diseases (syphilis and tuberculosis), metabolic disturbances (diabetes and gout) and endocrine imbalances, such as hyperthyroid conditions. Among causes for the dystrophic forms of paradentosis, he includes diseases of the central nervous system, (tabes and multiple sclerosis). The author states that paradentosis may be the point from which infection is disseminated to other body parts especially in rheumatism and gout; it should be dealt with as a mode of therapy as well as of prevention in these diseases.

The coöperation of the internist with the stomatologist is essential in these conditions to discover and eliminate endogenous causes of paradentosis on the one hand; and on the other to discover and eliminate paradental foci which may be the source of rheumatic infection. The hospital stomatologist must have not only a full understanding of these relationships but must be master of the technics necessary for the successful local treatment of paradentosis.

Excerpt from article.
—Transl., H. A. R.

181—Cahen, Dr. Paul: **Stoffwechseluntersuchungen bei Paradentalpyorrhöe und diffuser Atrophie.** Researches in metabolism in paradental pyorrhea and diffuse atrophy, in: Zeitschr. f. Stomat., xxix(9 and 10): 1110-26 and 1178-91. 1931. (Serial.)

This article is largely a review of the literature of the above mentioned diseases. The present author divides the cases discussed into three groups somewhat as follows:

Group 1. *The works of a majority of writers, including all patients suffering from "Paradentosis" or alveolar pyorrhea.

Group 2. The works of those authors who especially emphasize that the patients they have examined suffer from diffuse atrophy.

Group 3. Those patients who have not diffuse atrophy according to the description of the authors.

In no case can great importance be attached to the findings of Group 1 which cannot be correlated with the clinical picture.

(1) In unclassified paradentosis material, a great number of investigations have been made with partly contradictory findings.

(2) In the cases with diffuse atrophy a number of pathological findings are evidently contradictory to the following series. Though the pathology has been carefully considered, the cause cannot be correlated to certain unquestionable findings, although this group seems to be the only one giving a clear clinical picture.

(3) In material without diffuse atrophy, the findings were chiefly negative; hence it seems best to take this group as the complement of the diffuse atrophy group.

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*Group 1 cannot be regarded as a mixture of 2 and 3.

—Transl., H. A. R.

182—Citron, Prof. Dr. Julius (Berlin): **Das Paradentoseproblem in seinen Beziehungen zu Allgemeinerkrankungen.** The problem of paradentosis in its relations to systemic diseases, in: Schwz. Mschr. f. Zhkde, xli(12): 1219-1242. Dec., 1931.

Citron uses Weski's classification of Paradentosis as follows:

1. Chronic gingivitis,
2. Total atrophic paradentosis,
3. Partial atrophic paradentosis,
   (a) catarrhal paradentosis,
   (b) combining forms,
   (c) dystrophic paradentosis.

Citron divides the etiological factors, which he feels are not yet understood, regardless of the research which has been done, into three sub-divisions.

1. Local factors only, such as mal-occlusion, "false bites," etc. However, he has been able to demonstrate in many of these apparently sound cases, evidence of diabetes, uric

acid, arthritis, Basedow's, migraines, myxedema, etc.

2. This type is characterized by endogenous factors exclusively or endogenous factors which dominate all others. He cites a case of a "nearly normal" denture which exhibited no clinical signs of paradentosis when first observed. Marked symptoms with suppuration developed later, accompanied by a serious secondary anemia and stubborn subfebrile temperature; systemic examinations showed no affection of the internal organs. The teeth which all loosened were extracted without any effect on the general condition. The patient died suddenly several months later in a diabetic coma. An autopsy disclosed a pancreatic cancer.

3. Cases involving exogenous and endogenous factors. Citron finds the incidence of paradentosis to be 65% in women, which develops mostly before the age of 50 and 35% in men, which develops after that time of life. The blood picture shows a lymphocytosis in about 80% of the cases.

In discussing research methods employed in studying paradentosis Citron notes especially capillary microscopy (Loos, Jaensch, Kolm-Groh, Back, etc.) Investigators agree that the capillaries of the oral mucous membrane, particularly of the gingivae are normal only in exceptional cases of paradentosis. The research results show that while the capillary picture in the nailfolds is found to be normal, that of the labial mucous membrane discloses wide variations. Back and Redisch describe gingival capillary changes which are due to inflammation or disturbed function. Citron feels that predisposed individuals with an involved capillary inhibition due to inflammation, endocrine or metabolic disturbance, or other dystrophy of the vegetative system, develop inflammatory and dystrophic changes, which become retrogressive under treatment. Vascular spasms are also observed in many paradentosis types.

—*B. T.*

183—Coolidge, Edgar D., D. D. S., M. S.: **Inflammatory changes in the gingival tissue due to local irritation,** in: J. Am. Dent. A., xviii(12): 2255-70. Dec., 1931.

Dr. Coolidge states that the success of maintaining a high degree of mouth hygiene is to a large extent dependent on the presence of shallow gingival crevices and the absence of marginal inflammation of the gingival tissues. However, an ideal gingival crevice is seldom found. He explains the eruption of a tooth and the changes which take place as the tooth erupts, between the epithelium which covers the enamel and the mouth epithelium, and explains the final normal crevice between the two epithelia which exists when the tooth is fully erupted, and the tissues seem to be "fixed" in what is called a normal gingival crevice.

Then the different stages, from normal to badly diseased and receded gingivae are minutely described and plates are shown for each step.

The effect of calculus and other irritations is described. The presence of calculus does not always cause pocket formation, but it may be deposited in a pocket or deep gingival crevice if one is present. The presence of calculus on a tooth impinging on the gingivae usually causes necrosis of the superficial tissue leaving a blunt edge which bleeds easily on disturbance. A description of the formation of subgingival (or serumal) calculus is given.

The author states that the support of the tooth depends on the width of the periodontal space, the height of the alveolar crest and the length of the exposed surface or the clinical crown, as it is termed by Gottlieb.

Orban is quoted as stating that healthy, firm papillae have a hornified layer, while the swollen, soft papillae seen in gingivitis have no hornified layer. This contribution to the literature is of great value in relation to mouth hygiene. That a hard resistant protective layer of tissue can be developed on the gingivae by proper treatment and daily care is exceedingly promising.

The relative location of the gingival tissue surrounding the teeth is not of so great importance to mouth hygiene as the character of this tissue. The ideal gingival crevice is one of insignificant depth, and our attention should be continually directed to care of the soft tissue to maintain shallow gingival crevices.

A large percentage of all mouths can be kept in a hygienic condition by the correction of faulty and open contacts, by removing rough and overhanging margins of fillings and other dental restorations and by the control of dental calculus. The greatest problem that confronts us in this field, is to control the condition of the saliva, which is responsible

for the continuous settling of mucinous and calcific deposits on the teeth and in the gingival crevices.

—*S. R.*

184—Downs, Wm. G., D. D. S., M. A., Ph. D.: **Some new view points on dental disease,** in: J. Am. Dent. A., xviii (12): 2348-52. Dec., 1931.

In connection with periodontal disease the author has found a high correlation between periodontal and cardiovascular disease. "Practically every case in which the anatomic diagnosis of central or peripheral arterio-sclerosis, sclerotic changes in the kidney, or the peripheral sclerosis of diabetes could be written, shows an almost parallel destruction of the pericemental membrane and periodontium. Histologically, sclerosis of the minor vessels in this region is a constant picture."

"This line of reasoning was accepted as a working hypothesis and further followed until, from post-mortem and clinical findings, I am convinced that one of the most common causes of periodontal diseases lies in changes in the capillary network supplying these tissues. So often has this been seen that I am today convinced that, frequently, the earliest observable symptoms of these vascular changes is the breaking down of these constantly traumatized tissues, and that the impending systemic change may be early diagnosed in this way."

"Periodontal disease is not an entity but a condition which may be brought about in varying degrees and in many ways. Not the least of these, and basic perhaps to the most stubborn cases, is a change in the vascular walls."

—*H. J. L.*

185—Gescheff, Georg (Frankfurt, a. M.): **Einige Lipoiduntersuchungen des Paradentiums bei Diabetes.** Lipoid researches in diabetes, in: Paradentium, iii(4): 117-24. 1931.

An attempt by the author to show the relationship of pyorrhea to diabetes and other systemic disturbances. He shows the fatty infiltration of the inflamed periodontal tissues as a result of diabetic lipemia.

—*A. H. M.*

186—Gibbs, W. D.: **Pyorrhea as a focus of infection.** Suggestions for its early recognition by physicians, in: Southern Med. & Surg. Jour., xciii: 592-596. Aug., 1931.

The object of dentistry today is to preserve the teeth in health. The two most important pathologic conditions in the mouth are dental caries and pyorrhea. Pyorrhea has been called a mystery; but the author questions whether the mystery does not lie in our lack of diagnosis. Contrary to general opinion, he believes pyorrhea to be the most important focus of infection, giving a number of cases from his files in support of this theory.

There are two essentials in the elimination of pyorrhea infections,—correct diagnosis and correct treatment. He regards it as a fallacy that extraction always cures the condition. He pleads for early recognition which is possible only by a full mouth x-ray and careful routine examination.

187—Göthlin, Gustaf Fr.: **Eine indirekte Probe auf den C-Vitamingehalt des Menschen zur Feststellung der aetiologie bei Entzündungen des Zahnfleisches, Paradentiums und Pulpa.** An indirect test for the vitamin C content in the human being to establish the etiology of inflammations of the gingivae, paradentium and pulp, in: Svensk Tandläk. tidskr., xxiv: 315-25. 1931. Abs. D. M. f. Z. 50(20), 946-947. Oct. 15, 1932.

188—Gottlieb, Bernhard (Vienna): **Wie enstehen die chronischen zahnfleischent Zündungen und wie kommt es zum Zahnausfall.** How the chronic gingival inflammations arise and how they result in loss of teeth, in: Wiener Med. Wchnschr., xliv: 1200-01. Sept. 18, 1931.

Gottlieb states that the normal flow of saliva in the mouths of young persons in perfect health, who eat hard foods in an otherwise adequate dietary is sufficient for preserving a healthy gingiva; apples eaten at the end of a meal are particularly mentioned as tooth cleansers. These ideal conditions are seldom lasting, however, therefore artificial cleansing of the teeth by a brush is necessary.

He states that most cases of gingivitis which begin with an acute feverish condition, general malaise, etc., are partly acute and partly chronic and eventually cause tooth mobility. Extraction, or irregularity of the teeth which spoil the continuity of a well formed dental arch create a "*punctum minoris resistentiae.*" External injuries in addition to those sustained during mastication will be exaggerated in these locations thus lowering the resistance of the involved tissues.

Aphthous and ulcerous gingivitis are mentioned. The former should be regarded as a form of stomatitis because it is not always confined to the gingiva. Ulcerous gingivitis always involves the marginal gingiva first but may spread to other parts of the oral cavity. These should be regarded as infectious diseases as they are preceded by symptoms of lowered resistance of the involved area or areas.

Specific gingival inflammation such as those associated with tuberculous and tertiary lues are not as commonly observed as those just described and the granulation tissue formed about the teeth is not strictly confined to the gingivae; exfoliation of the teeth is rapid. Gottlieb also states that the gingivitis present in the acute exanthems pass quickly and that gingival necroses such as those present in leukemia and pernicious anemia must be noted because teeth are lost rapidly due to violence of the diseases and that as a rule patients die before the process is completed. He notes, that neoplasms may force the teeth out of their original socket position with ultimate exfoliation as the result.

Gottlieb mentions a form of loosening of the tooth which is idiopathic in nature due to metabolic disturbances. In these cases there is a derangement of the normal relations between the tooth and the periodontium resulting in the loss of the former. This has already been described by him as tooth shifting (Wanderung). The formation of pockets involving inflammation and suppuration are contributing factors. The following metabolic symptoms are mentioned: lowered specific dynamic protein action, increase of Ca, cholesterin, bilirubin and sugar in the blood. The increase of cholesterin and bilirubin observed clinically indicates that liver diseases are associated with loosening of the teeth. Rapid loss of the latter is sometimes noted during an early menopause. In other metabolic disturbances involving the teeth, internal disease must be sought as an etiological factor.

The sudden onset of loosening of the teeth is striking because the relationship between it and internal disease seems clear. The author states that the claim that traumatic occlusion as a cause of idiopathic tooth loosening is unjustified and is merely a secondary contributing factor.

—B. T.

189—Hawkins, Harold F., D. D. S.: **What is the cause of caries and systemic pyorrhea?**, in: J. Am. Dent. A., xviii (5): 943-945. May, 1931.

Dental decay and pyorrhea of the systemic type is the result of disturbed metabolism, and there seems to be a significant relationship between the calcium and phosphorus levels.

In active caries there is a high blood calcium, and a low blood phosphorus. In systemic pyorrhea, the calcium-phosphorus balance is just the reverse. Coördinated tests of saliva, blood and urine also show that the salivary balance is the reverse of the blood stream in both infections. In reaction from the hydrogen-ion test, we find the saliva very acid in active caries, but less so in active systemic pyorrhea; while the urine in caries is alkaline, and acid in pyorrhea.

A high grain cereal diet causes acidity of the saliva, and acid phosphates are thereby retained, and due to lowered alkaline reserve acidosis is produced with subsequent caries. A low vitamin D diet is also responsible for caries. On a well balanced diet, the normal saliva neutralizes the acids and protects the teeth.

In the production of systemic pyorrhea, the diet is more or less reversed of that in caries, it being decidedly acid-forming with a reduced retention of calcium in the body. Therefore, the saliva holds an excessive amount of calcium phosphate, and heavy deposits are found on the teeth. Infection results from lowered resistance. A high calcium diet, strongly alkaline, containing vitamin D, substituted for the faulty intake lessens the inflammation, and the anemic form of pyorrhea develops.

Correcting the calcium and phosphorus balance and eliminating focal infection in many cases corrects caries. In pyorrhea, instrumentation in addition to favorable diet is indicated. Loss of the organic matrix seems detrimental to the development of new bone.

—*C. J. C.*

190—Held, Dr. Arthur (Geneva): **Paradentose et Prothèse.** Paradentosis and prosthetics, in: Schwz. Mschr. f. Zhkde, xli(1): 46-55. 1931.

These two important specialties of dentistry are really intimately connected; a deep study of the one implies an extensive knowledge of the other. Whatever the etiology of

paradentosis it always results in loosening the teeth. Among the means of local treatment a large place should be reserved for prosthetics, as much from a therapeutic as a prophylactic standpoint.

The teeth are subjected to two forces, acting at a right angle to each other; the one vertical, very well borne by the ligament which constitutes an elastic cushion; the other lateral, entailing atrophic processes. Faults of occlusion amplify this lateral stress and are thus able to start a precocious alveolar resorption. By careful examination even in children, slight insignificant functional troubles may be discovered, which may be able to prepare the soil for paradentosis; in numerous cases of paradentosis, re-establishment of a normal articulation is sufficient to overcome the disease.

Alveolar atrophy entails a disproportion between the dimensions of the crown and the length of the root. There are at disposal of the dentist prosthetic means capable of arresting, to a certain degree, the progress of atrophy and restoring a normal function. But mere immobilization of the loosened teeth is not enough; the evidences of traumatic occlusion must be carefully sought for and corrected.

The remainder of the article is devoted to discussion of prosthetic appliances.

—*Transl., H. A. R.*

191—Hulin, Prof. Dr. Charles (Paris): **Marginal gingivitis and pyorrhea; soil, causes, prognosis and differential diagnosis,** in: Sect. IV, p. 50. Proc. viiith Cong. Internationale at Paris. Aug., 1931.

Marginal gingivitis according to Hulin is caused by local factors, chiefly organisms, mucus, food débris, tartar, etc. Its treatment is the establishment of good hygiene. Specific forms of gingivitis due to drugs, form a separate class. Gingivitis must be differentiated from pyorrhea because some factor is lacking in gingivitis which provokes the more obstinate lesion of pyorrhea.

—*A. H. M.*

192—Hulin, Prof. Dr. Charles: **Some thoughts concerning pyorrhea alveolaris,** in: Brit. Dent. J., lii, 2(11): 633-4. Dec., 1931. Abs. from Schwz. Mschr. Sept., 1931.

Discussing anaphylaxis and its effects, M. Hulin suggests that the local lesions in local anaphylaxis may be compared with macroscopic and microscopic lesions in the gingival tissues in cases of pyorrhea, the first signs of which in the gums are comparable to those obtaining after the first dose of a colloid when the organism reacts to infinitesimal doses of the same substance in contact with the peridental tissues. Such a reaction Hulin obtained by dropping a minute quantity of milk from a probe into a pyorrheic pocket, when immediately edema of the gums and an abscess developed at the point of application. Pyorrhea has been proved to be a hypersensibility to the action of heterogeneous colloids, an upsetting of organic colloidal components—a necrobiosis of the cells of the dento-gingival tissues which permits a secondary invasion by infective agents, which add, in their turn, colloidal modifications to the medium. The irritation of the vegetative system thus produced brings about vasodilatation—hyperactivity of the circulation and intense neovascularization, then kariokinesis of the epithelium and proliferation of the deeper layers. This provokes an osteolysis of the alveolus and the rest of the well-known symptoms ending in expulsion of the tooth. Thus it is not one disease alone which causes pyorrhea, but all diseases which affect the whole organism are responsible.

—*Transl., H. A. R.*

193—Irwin, D. Boyd: **Etiology of pyorrhea,** in: Austral., J. of Dent., xxxv(8): 282-285. Aug., 1931.

The author touches on two phases of etiology, namely, occlusal trauma and functional inactivity. He reviews opinions of various writers as regards traumatic occlusion and functional inactivity. He suggests that it might be possible to place the majority of cases under some form of classification or types so that the general practitioner might learn of a definite technique to follow. He will also be warned of any pitfalls and where grinding may or may not be necessary.

—S. S.

194—Jacobs, Walter H., B. S., D. D. S.: **An outline of Vincent's infection,** in: D. Digest, xxxvii: 36. Jan. 1931.

This outline is complete including bacteriology, etiology, symptomatology, treatment and home care.

—*A. M. H.*

195—Landgraf, Dr. Erwin (Budapest): **Die Rolle des Reststickstoff, Blutzucker, Kalzium-Kaliumgehaltes im Blute bei Paradentosekranken.** The role of residual nitrogen, blood sugar, calcium—and potassium—content of the blood in patients suffering with paradentoses, in: Ztschr. f. Stomat., xxix(11): 1243-1247. 1931.

Rest-N: In this clinical research of 100 paradentosis cases, it was possible only twice to establish a heightening of the Rest-N. This is not surprising, since this increase of the residual nitrogen is bound up with more strongly predominating elements; hence it can occur only seldom, that, starting from a paradentosis, and searching for metabolic etiological factors, we chance upon so pronounced an internal disease of which the patient suspects nothing.

In these two cases the uric acid of the blood was increased once (5 mg. %) and could not be influenced by purin free diet; since the uric acid blood content is also a part of the Rest-N, it was studied and was found increased by 57 mg. %, due to chronic kidney disease. In the other case 56 mg. %. The blood sugar content was enormously increased (0.23%). Plainly, here, the heightened Rest-N was correlated with the diabetes.

Blood-sugar: In 150 paradentosis cases a positive finding, tooth loosening, was present in twelve. Only in one case could sugar be demonstrated in the urine. In eleven cases there was no glycosuria. Blood sugar 0.127 and 0.148 mg. %.

Ca & K: Calcium, 9-11 mg. % in 80 cases. K and Ca content was abnormal in 50 cases. No correlation with other pathological findings noted.

It can only be said that for investigation of the etiology of paradentosis, the estimation of the blood calcium and potassium is fairly valueless in the present state of our knowledge.

196—Landgraf, Dr. Erwin, with Dr. Stéphan Bánhegyi: **Untersuchungen über den Cholesterin, Bilirubin, und Reservealkaligehalt des Blutes bei Paradentosekranken.** Research concerning cholesterin, bilirubin and reserve alkalin content of the blood in paradentosis, in: Ztschr. f. Stomat, xxix(11): 1247-50. 1931.

On the ground of these researches it appeared that a deviation occurred only toward acidity; and such a deviation of the acid base equilibrium was found in 20% of the cases, proved by the low alkali reserve content. Numerous control observations showed that this variation of equilibrium is fairly constant for the individual and must be regarded as a constitutional stigma.

At the same time, it cannot be denied that such variations create a predisposition to paradentosis, as is also evident from the observations made of the alkalization of such patients.

The alkali reserve varies normally between 77 and 54 cm., and the 20 cases noted showed all degrees between 35 and 50. Exceptions were twelve cases with increased blood sugar content which showed obviously an acid variation. These observations confirm the conclusions of Prof. Dr. Citron.

—*Transl. from art., H. A. R.*

197—Leschke, Dr. Erich (Berlin): **Die paradentale Fokalinfektion und Intoxikation.** Paradental focal infection and intoxication, in: Med. Klin., xxvii(3): 356. Mar., 1931.

The subject of focal infection has been so effectively handled by Pässler, Rosenow, Bieling, Castex and others, that a re-opening is only justifiable by a restatement of the problem.

Root granulomata the author regards as arising not from the connective tissue supporting apparatus of the tooth root,—the so-called periosteum—but from the chronically inflamed tissue of the bone marrow; thus granulomas are osteitic foci of the jawbone above the root. (Weski, Lubarsch, Siegmund).

Not only root granulomata, carious defects and pronounced alveolar pyorrhea or paradentosie are responsible for general infection or intoxication of the entire organism; but also food débris in the mucous pockets of the gum. These, too, can lead to infections, through an inflammation of the gum and marginal paradentitis, as well as to intoxication, through formation of decomposition products and sepsis.

The author emphasizes the following points:

1. Paradentosis usually develops on the basis of a gingivitis consequent upon the retention of subgingival detritus and calculus formation. With healing of the gingivitis, the cause of atrophy and paradentosis is removed.

2. The infected subgingival masses of detri-

tus as well as the gingival and paradental inflammations due to them are frequent causes of gastritis.

3. The significance of these processes for the pathogenesis of many cases of asthma has been recognized by practical experiment. Asthma patients admit improvement after use of a spray of carbonic acid.

The theoretical explanation of this is that many asthmatics have developed a hypersensitivity to the bacterial flora of their own mouths and upper respiratory passages, which is also related to these decomposition products of the masses of detritus retained in the gingival pockets.

4. The marginal paradentitis (Häupl and Lang) present in the inflamed region is the same process as an apical osteitis. This is true also for toxic and infectious effects at a distance.

In conclusion the author emphasizes as axiomatic the importance of the subgingival paradental retention and its sequelae, gingivitis, as well as marginal paradentitis and paradentosis in the origin of general infection and intoxication.

—*Transl., H. A. R.*

198—Lewis, J. Monahan, D. D. Sc.: **The challenge of pyorrhea,** in: Australian Jour. of D., xxxv: 273-281. Aug., 1931.

The writer calls attention to the great prevalence of pyorrhea and attributes it to the belief, more or less current among the profession and the public that it is an incurable disease. He points out the mistake of not looking for it in young patients. "Press the gum tissue of your little patients with the index fingers, placing one on the lingual and one on the labial surface. The tell-tale bead of pus, followed by a minute hemorrhage into the interdental space would often proclaim the early lesion which is later on to injure the patient's health and cause the loss of a valuable tooth. He especially emphasizes the fact that "pyorrhea does not destroy the peridental membrane." Speaking of the treatment, "if we are to meet with any success we must have the thorough co-operation of the patient. It is desirable to have X-ray films at hand and however important X-ray films may be it is rarely a sufficient guide of itself for the determination of marginal alveolar loss." A thorough examination must be made in order to ascertain what teeth would respond to treatment. "The instrument employed should be flat and have marks upon it which indicate roughly the depth of pockets in millimetres." In his process of eliminating such teeth as are not favorable to treatment he says, "among inoperable pockets I would include many of those found in the lingual aspect of the upper incisors and canines. A deep pocket in this situation rarely repays treatment." Further, he states, "cases in which deeply infected teeth alternate with comparatively sound ones are not generally suitable for treatment. Moreover, where there is a crowding of the teeth or the presence of partially erupted molars, again, in the second or third molars, though completely erupted, if displaced vertically, so that the mesio-occlusal angle approaches the gingival of the anterior teeth, creating a space which cannot be kept free from food débris. They should be removed." The fact is, in his process of elimination all of the upper teeth excepting the incisors and cuspids are not worth treatment and it is a question whether it is advisable to retain these if the lower incisor and cuspid teeth are present, as they will not withstand the wedging forward which will occur when they are in occlusion. He says, "I am afraid that only in a few cases will it be possible to allow pyorrhetic teeth to remain in the mouth."

—*J. C. S.*

199—Loos, Prof. Otto (Frankfurt, a/M): **Origin and manifestations of the early clinical lesions of pyorrhea,** in: Proc. viiith Int'l Dent. Cong., Paris, 1931. Sect. iv: p. 96. Pyorrhea alveolaris.

Loos compares the inflammatory destruction of the paradental tissues described by Fauchard with the atrophy of the alveolar bone described by Hunter. He thinks there exists in the patient a predisposition to one or the other of these types but the picture may be complicated by local irritants to the gingiva or the alveolar bone. He recognizes some systemic conditions as associated with the diffuse atrophy type of paradentosis, namely, the arthritic allergic diathesis, hypercalcemia, hypereosinophilia, hyperglycemia, also endocrine disturbances especially hypophysial. In the dry osteopathic type of paradentosis the endocrine dysfunctions should be considered. The picture is complicated between hormone, vegetative nervous system, and mineral metabolism. As soon as the me-

chanical and functional harmony of the denture is destroyed either the inflammatory or osteopathic tendency manifests itself.

—*H. J. L.*

200—Magalhaes, H. de: **Appendicite e pyorrhéa alveolar.** Appendicitis and alveolar pyorrhea, in: Brasil Odont. N (1) 7-8. 1931. Rev. brasil de med. e. pharm, vi: 239-41. July, Sept., 1930.

This author recommends that all cases of appendicitis should undergo careful dental examination before submitting to operation, because of the possible existence of pyorrhea or other buccodental foci of infection. Complications may be thus avoided which might otherwise follow without preventive treatment of the oral cavity. This procedure has already been adopted by many operators of note who take much pains in regard to the teeth before operating. Frey and Ruppe consider simple or complicated pyorrhea a grave danger in surgical interventions in gastrointestinal disorders.

—*Transl.*

201—McCall, John Oppie, A. B., D. D. S.: **Tooth malposition as a factor in periodontal disease,** in: N. Y. Jour. of Dent., i: 23-27. Jan., 1931.

The author says that traumatic occlusion does not always produce periodontal disease. Even so, it may be causing injury to the pulp or possibly other tissues. Natural wear should provide relief for traumatic occlusion but does not usually do so, owing to the lack of functional use and to weakened periodontal support. In normal occlusion long cusps which do not wear off lead to traumatic occlusion. The maloccluding tooth must either adjust itself by tipping of the tooth out of interference or by greater wear than on the other teeth. Usually neither occurs to a sufficient degree.

Correction of malocclusion is not only for the sake of the mechanics of mastication, esthetics and the development of the nasal passages, but for periodontal health as well. Where the protrusive movement is all done on a guide plane of one tooth, there is bound to be trauma. An excessive overbite leads to accentuation of cusp height in the molar region. When the lower first molars are lost, we have lingual and distal inclination of the lower anteriors and spreading and protrusion of the upper anteriors; the posterior teeth tip and get lateral stress. Where the bicuspids do not interdigitate mesiodistally, there is locking in the lateral movements.

It is difficult to grind sufficiently to relieve such a condition. Orthodontic treatment is preferable. Lingual inclination of the molars is a bad result of the loss of teeth. It is impossible to correct a telescoping bite by grinding. Teeth in non-occlusion are likely to develop periodontal disease from lack of tissue tone. This may be helped by massage, and by grinding the remaining teeth to lower occlusion.

—*H. J. L.*

202—McDougall, J. M., B. D. S., (Auckland): **Some constitutional predisposing causes of (dental caries and) pyorrhea.** (The theories of Broderick thoughtfully discussed), in: New Zealand Dent. J., xxvi(124): 96-106. Jan. 1931.

In his discussion of Broderick's theories, the author expresses Broderick's views that the diseases of the teeth are not dissimilar in origin to diseased conditions elsewhere in the body.

Broderick's theory connects dental caries with a tendency to acidemia and pyorrhea with that of alkalemia thus making it obvious that we are dealing with general rather than local and environmental conditions. Some have advocated the removal of bacteria and toxins and the substitution of vitamins to alter these conditions. However it is not so simple. Biochemistry enters into the picture and the study of endocrinology becomes apparent. It becomes necessary to study the reaction of the blood in the production of acids and alkalis and to discuss the mechanism by which this stability is maintained by the buffering powers of the blood. By this is meant the power of the blood of taking up either acid or alkali without perceptible changes in reaction. The buffering property of the blood and acting with it are the eliminative powers of the kidney in abstracting from the blood either acid or alkali as occasion requires: the elimination of Co_2 which is an acid gas by the lungs in respiration and the liver action in separating ammonia which is an alkali, from the proteins of the acids.

The important problem seems to resolve itself on the balance between intake and output, between anabolism and katabolism.

Research work of Starr of Philadelphia on

PH of saliva is quoted at length to show the definite connection between salivary reaction, a respiratory function, and through this to metabolic circumstances, together with, for the same reasons, the emotional state of the individuals. He quotes Rapier, that during the teens and twenties there is a special susceptibility to caries, and after thirty there is a growing immunity to caries and a special susceptibility to pyorrhea.

The author relates the experiences of Bunzell on the reactions of saliva in youth, middle age and old age. Age seems to be a factor in addition to respiration and emotion, the connecting link between all three being metabolic disturbance.

—S. S.

203—Mellanby, May (Mrs.): **Progress report to October, 1930,** in: Brit. Dent. J., lii(1): 51-52. 1931.

Experimental work on the influence of fat-soluble vitamins on dental structure has been extended to the study of the effect of these vitamins on the development of the periodontal tissues and on the resistance of these tissues to disease.

A full report on these investigations is now in the press.

204—Newling, P. Ray, D. D. S.: **Some factors in the etiology and treatment of pyorrhea alveolaris,** in: Austral. J. of Dent., xxxv(11): 379-381. 1931.

In this paper the author wishes merely to discuss factors of paramount importance in his opinion. He regards pyorrhea as a single manifestation of metabolic disturbance unfavorably influenced by local conditions. He quotes at length from H. Prinz who says (Cosmos, Jan., 1926) "disease is never the sequence of a single agency." In comparing conditions of modern pyorrhea patients with aboriginal skulls the author points out the differences in the teeth themselves.

Stefansson found neither caries or pyorrhea in skulls of Icelanders but the articulation was perfect, owing to vigorous use and consequent development of massive and disease-resistant bony structure. In pyorrhea, traumatic occlusion is always present. Hence in treatment, the articulation must first be improved by the elimination of traumatic occlusion, and then attention paid to faulty contact points. Neglect of these preliminaries handicaps all other methods used.

205—Nothmann, Dr. Martin Privat-Dozent and K. Voit: **Stoffwechseluntersuchungen bei Paradentosen.** Metabolism in paradentosis, in: Paradentium, i:33-34, Z. Rdsch., xl(7): Feb. 15, 1931.

Authors' résumé: Out of 22 patients with paradentosis, of whom one group was healthy, another group visiting our Clinic for different diseases, only one patient, a case of Basedow's disease, showed an increase in metabolism to a marked degree. In three diabetic cases the metabolism rate rose to the upper limit of the norm.

—*Transl., H. A. R.*

206—Palmer, G. B., Esq., L. D. S., R. C. S.: **Some systemic factors in pyorrhoea,** in: Guy's Hospital Gazette, (London) xlv: 154. April, 1931. 170 May 2, 1931.

This article may best be described by an exact transcription of the author's own "Summary."

1. Pyorrhoea is not a modern disease.

2. It was widespread in 5000 B. C., and has been recorded in Neanderthal Man.

3. It was prevalent when caries only occurred sporadically and was comparatively rare.

4. There are two distinct types of pyorrhoea—one associated aetiologically with heavy deposits of calculus, the other not necessarily having such calculus.

5. The two types can be traced back to the earliest record of the disease.

6. The first type is a disease which originates from local mouth causes.

7. The second type is primarily a reaction of the gingival tissues to systemic disease, with increase in fuso-spirillary content under the favorable conditions resulting.

8. Treatment of this group of pyorrhoea must commence with treatment of the systemic causes.

—*W. Y.*

207—Pulay, Dr. Erwin (Vienna): **Zur Klinik und Therapie der Paradentose.** Paradentose and Seborrhöe, in: Ztschr. f. Stomat., xxix(11): 1227-40. 1931.

On the basis of his published communications and also his observations and therapeutic experience the author includes pyorrhea in the seborrheic symptom-complex. Para-

dentosis is seborrhöe of the teeth. It corresponds to the falling of the hair. Alveolar pyorrhea corresponds to acne vulgaris. Its cause is an anomaly of metabolism, especially of the albuminous metabolism. This derangement manifests itself sometimes through cholesterinemia, sometimes (often) through acidosis. It is conditioned by an ingestion deviating from the norm which expresses itself by an abnormal energy metabolism, but which is a diminution. That in not every case, a like symptom complex finds expression in such a distorted ingestion, is because of the different regulatory factors. The findings on the disturbances of mineralization are to be evaluated in this sense. The electrolytes in a certain sense effect a tax upon the vegetative system and link therewith the hormonal and ferment metabolism.

The seborrhöe is accordingly a result of a fermentative disturbance in the nitrogenous metabolism and the paradentosis as its accompanying symptom finds its cause in the same systemic disturbance. Thus "paradentosis becomes a problem of dietetics."

—*Transl., H. A. R.*

208—Renshaw, Arnold: **Acidosis and pyorrhea,** in: Brit. Dent. J., lii: 700-702. 1931.

In reply to Broderick's letter to Editor of Nov. 2, in which he claims the possibility of excretion of acetone bodies without an abnormally low plasma bicarbonate figure (suggestion of Van Slyke) and deduces from this that acidosis is not present in pyorrhea, Renshaw contends that the plasma bicarbonate figure is not the sole criterion of acidosis; but that the ammonia nitrogen—total nitrogen is of equal importance. Such figures unless obtained by an expert in blood gas analysis are not of value. The author in distilling diabetic urines has frequently obtained a large part of "acetone bodies" as acetone itself, and claims that in view of the instantaneous transformations and combinations continually occurring it is certain that the relative concentration of carbon dioxide in the blood cannot remain far from normal for the safety of the tissues themselves.

Renshaw describes three experiments which in his opinion prove definitely that the calcium cannot be removed from bone by production of the activity of micro-organisms in the intestines, "neutralized as it would be on absorption by the ammonia bases of the blood."

The author characterizes as inaccurate Broderick's statement that rheumatoid arthritis and pyorrhea have the weight of evidence against their association, which Renshaw claims to have noted frequently. Broderick says also that "a tooth is a joint." In Renshaw's opinion this is untrue; a tooth is a tooth and not a joint. These are small matters but seem to evidence loose thinking. The author considers that Broderick's "alkalosis" is not to be regarded with fear in either arthritis or pyorrhea.

—*Abs., H. A. R.*

209—Retterer, Eduard: **Die Bedingungen der Pyorrhoe.** Etiology of pyorrhea, in: La Sem. Dent. Abs. Corresp.-Bl. f. Zahnä., lv(10): 427. Oct. 1931.

Statistic material at hand shows that pyorrhea is a disease whose causes are to be sought in systemic disturbances evoked by a high degree of civilization. The author here calls attention to the non-prevalence of pyorrhea in peoples living in a state of Nature.

On the other hand it originates from persistent malnutrition, as occurs in any kind of unendurable and insufficient manner of living pursued under constraint or from pure lack of reasoning.

In the author's often expressed opinion, after due consideration of the anamnesis from the status of our present knowledge, this disease of civilization may be combated most successfully by treating it as an avitaminosis and endeavoring to ascertain what harmful influence is being exerted by a high degree of culture upon normal development. It is encouraging, adds the German reviewer, when authors point out the too little stressed facts of disease as due to civilization and culture.

—*Transl. of abs., H. A. R.*

210—Schwarz, Dr. A. Martin: **Die Gewebsveranderungen bei orthodontischen Massnahmen.** Tissue changes during orthodontic treatment, in: Fortschr. d. Orthodontik, i(4): 1931. Abs. Brit. Dent. J., liii,1(2): 468, Jan. 15, 1932.

Dr. Schwarz corroborates the findings given by Gottlieb in his recent work on the effect of the load on the teeth upon the dental tissues, in that he shows that in his opinion traumatic occlusion is a chimera, at least as a

permanent lesion in healthy tissue with its ability to react and to allow a re-establishment of the balance of the occlusion. This overburdening of the tooth results in only temporary loosening. The biological ability to react is a natural protection and is at its maximum in young individuals, and decreases as age advances. Roots in older patients absorb more readily under the action of pressure than those of younger ones. Newly formed bone, as stated by Gottlieb, is more resistant to pressure force than older bone.

—*Copy*

211—Seppä, Kerttu (Univ. Helsingfors, Swe.): **Zur Kenntnis der Bedeutung des Kauens für die Resorption.** The significance of mastication for the absorption of food, in: Skand. Arch. für Physiol., lvii(3-6): 158-242. 1929. Abstract in Z. Rdsch., xl(26) 1174. 1931.

This author's studies on three (3) healthy persons are described with a literature review of 84 pages.

In brief it appears that the absorption of nutriment in general is about the same whether the food is faultily, normally, or fairly well chewed.

However, these experiments on healthy individuals do not exclude the possibility that faulty mastication, in certain definite pathological alterations of stomach and intestinal activity, leads to impairment of absorption and may finally excite a pathological condition.

—*Transl., H. A. R.*

212—Weinmann, Josef, M. D. (Univ. of Vienna.): **Connections between metabolic disturbances and peridental lesions.** (Abs.), in: J. Dent. Res., xi(3): 523-524. June, 1931.

The diffuse atrophy of the alveolar bone (Gottlieb) is characterized by the loosening and migration of the teeth and an irregular downward growth of the epithelium along the cementum. Clinical and histological investigations indicate that this form of disease arises uninfluenced by local and mechanical conditions. Inflammations of the gums and the formation of pockets are of a secondary nature and do not belong to the real picture of the disease. Examinations of the metabolism of such patients have shown a series of abnormal changes. In about 90% of the examined cases the specific dynamic effect of albumen was reduced. Further, it was observed that in a good many instances the contents of calcium, cholesterol bilirubin and sugar in the blood were increased. A pathological deviation in all directions could not be proved in all cases, but each showed *one* disturbance in some direction or other. So far it has not been possible to state any cause of these disturbances in metabolism, but it must be assumed that they change, above all, the circulation of the periodontal tissues.

The regular correlation of diseases of the jaw with disturbances of metabolism shows that the diffuse atrophy of the alveolar process represents the clinical sign of some internal disease. By the treatment of the diseased tissue with insufflated oxygen, not only the tissue itself but also the general metabolism is favorably influenced.

—*Copy*

213—Weissenbach, R. J. with F. François: **Infection focale et rhumatismes chroniques.** Focal infection and chronic rheumatism, in: Revue odontologique, lii(5): 344-368. May, 1931. Conc. Méd., xxix. Mar., 1931. Sem. Dent., xiii: 1142. 1931.

See: Diffusion of focal infection. pp. 349-350.

"Let us insist on the considerable surface that the foci often cover. In alveolar pyorrhea it is greater than would be imagined at first sight. Let us suppose, with Barron J. Rodway that the different alveolodental articulations attacked could be laid open, unrolled and spread out side by side; in a case of medium intensity a total surface would be presented large enough to cover the palm of the hand. It may be easily understood that an ulceration so extended constitutes a redoubtable surface for microbic penetration, especially if we remember that this surface limits a pus pocket whose drainage is imperfect; it involves a bone spongy and richly vascularized, especially the maxilla, whose absorptive surface increases in proportion to the evolution of the lesions and the destruction of the alveolar border."

The focal inflammation diffuses:

(a) by direct extension

(b) to a distance, in case of open foci

(1) by swallowing—pyophagia

(2) by inhaling—pyorrhea in case of closed foci (granuloma)

(1) by lymph stream

(2) by venous circulation.

—*Transl. from article, H. A. R.*

214—Weski, Oskar, Dr. med. (Berlin): **Paradentose und Fokalinfektion.** Paradentosis and focal infection, in: Zahnä. Rundsch., xl(44): 1961-1963. 1931.

Formerly Weski himself said " . . . but paradentosis even in its pyorrhetic form plays no role as dental primary focus, since here, the free drainage of secretions is not interfered with." He describes cases in this article and says in conclusion: " . . . it is not surprising that these dental foci play a part in general disease but far more surprising is the fact that not every carrier of an apical ostitic bone marrow focus, not *every* sufferer from an advanced paradentosis, whose gingival smegma constantly pours toxines into the tissues, shows general symptoms. The problem has far outgrown its incipience; its crucial point lies today in the realm of immunology."

—*Transl.*

215—Witz, Otto (Stuttgart): **Die gewöhnliche Gingivitis. Beitrag zur Häufigkeit und zu ihren Beziehungen.** Common gingivitis. Contribution to its frequency and its correlations, in: Dissert. Tübingen. 48 pp. 1931

(e) Symptomatology and Diagnosis

(Continued from July, 1932, Page 148)

106—Back, Heinrich und Redisch, Walter (Prague): **Die Bedeutung der Kapillaroskopie für die Klinik und Therapie der Alveolarpyorrhoe.** The significance of capillaroscopy for the symptomatology and treatment of alveolar pyorrhea, in: Med. Klinik, xxvii(41): Oct. 9, 1931, p. 1493.

The collective term "alveolar pyorrhea" embraces an entire series of gingival affections. In their etiology these diseases vary widely even when showing only slight differences clinically.

For observation of the gingivae the authors preferred to make use of a method used in ophthalmology for observation of the liminal vessels of the eye, the Vogt corneal microscope with the Spalt lampe (light passing through a slit). For photographic purposes however, they used a Leitz microscope adapted to their special needs. The authors differentiate five types of appearances in the gingival capillaries; these types may lead secondarily to bone degeneration or clinically to fully developed paradentosis.

"With this" say the authors "our task is finished. But doctors are all intrigued to discover whether perhaps this new knowledge conceals within itself the possibility of cure of the disease studied. In this respect we must be very careful. Intensive treatment of the discovered systemic disease must be logically carried out, as the influencing of paradentosis by substitution for a primary ovarian insufficiency, the treatment of Basedow's disease, of diabetes, thereby influencing favorably secondary generative gland disturbances. As for the great host of clearly inflammatory paradentoses which they were able to differentiate, for them the general and local arrest of inflammation must stand in the front line. The avitaminotic forms will be treated dietetically by supplying vitamin C. Creation of hygienic conditions in the oral cavity (removal of tartar, etc.), retains all its importance. Advanced case with bone atrophy and its results need the skill of the technically trained dentist."

—*Transl., H. A. R.*

107—Behnke, Dr. Otto (Munich): **Paradentose und Fokalinfektion.** Paradentosis and focal infection, in: Rdsch., xl(2) (41): 1827-29. 1931.

Most authors think that pyorrhea may be a primary focus of infection, albeit not so common, since the pus pockets afford free drainage. The author does not concur fully in this opinion, since who can guarantee an unimpeded drainage of pus in pyorrhea? Alimentary débris, for instance, may block a pathologic pocket, thus causing a stasis and heightening of microbic virulence which may pass over into blood and lymph circulation. His survey of the literature shows only a few cases reported of focal infection from this source (Boennecken: nephritis from apical paradentosis, Frank: fever, from gum pockets, etc.). One case is reported of pyorrhea with tooth loosening and suppuration due to faulty bridgework (vomiting and diarrhea, palpitation, headache; stiffness of knee and neck; anorexia, elevated temperature, etc. Amelioration of symptoms on extraction).

108—Boenheim, Felix: **Ueber Leberfunktionsprüfung bei Paradentose.** Study of the liver function in paradentosis, in: Z. Rdsch., xl(33): 1449-1453. 1931.

Boenheim has found in five cases out of 13

a pathologic hyperglycemic curve after levulose over-dosage. This indicates a disturbance of liver function usual in paradentosis. This apparently occurs on the basis of metabolic disturbances which form a background common to both these diseases.

Further investigations are necessary to determine whether the levulose curve is really as uniform as it appears in the few cases described.

—*Transl., H. A. R.*

109—Boenheim, Dr. Felix, Zur Kenntis des: **Kohlhydratstoffwechsels bei Paradentose.** Carbohydrate metabolism in paradentosis, in: Z. Rdsch., xl(39): 1713-1720. 1931.

The correlation between diabetes mellitus and paradentosis at one time appeared to be settled; still in many most recent publications we read that paradentosis is a symptom of diabetes (e. g., P. F. Richter) or that there is "no doubt" that "caries, gingivitis, alveolar pyorrhea are more usual in diabetics than formerly" (Grafe). The findings on the subject are reviewed and those of Butz cited as probably most important. From this review it is clear that the problem is still unsolved.

The remainder of the article describes cases and furnishes tables. In conclusion:

Paradentosis must not be regarded as a diabetogenous symptom. Also, a diabetogenous *Anlage* or a latent tendency to diabetes can be only exceptionally demonstrated with the aid of complete hyperglycemic curves after over-dosage with dextrose.

—*Transl., H. A. R.*

110—Börsner, A. (Libau, Lettland): **Fibromatosis gingivarum,** in: Z. Rdsch., xl(29): 1276-78. 1931.

Gingival hypertrophy is regarded in our textbooks and in the literature as an alteration of the gingival condition of unknown etiology, as a disease specially of scrofulous children, pregnant women, more rare in men; or, as an accompaniment of different systemic affections.

The cases heretofore published can be divided into two groups.

1. acute or chronic marginal inflammation
2. fibroma-like affections of the gingiva.

Arkövy thus describes the gingivitis of pregnancy: after an incipient hyperemia, the gum is edematous, hypertrophic, dark red or bluish, easily bleeding; different epulides may appear.

But after the pregnancy all these symptoms subside without treatment of any kind (except hemostatic mouth washes).

In the literature, however, hypertrophy of the gingiva is only scantily described.

Microscopic picture:

Epithelium: Malpighian layer increased and thickened; in places the epithelium very thin; deeply, it is typical, often showing distortion.

Connective tissue: stratum fibrosum of thickened tissue, sclerotic, coarse fibred, poor in vessels, few elastic fibers, round celled infiltration. No appearances of inflammation in the deeper layers. Proliferation is throughout benign.

Begelmann is thus cited: the fibroma gingivarum is a genuine new formation, the sequela of a blastogenetic process with limited potential development.

Differential diagnosis: The common gingivitides are of soft consistency, bleeding easily, cyanotic in color, inflammatory factors in evidence, which disappear after cleansing processes have been instituted. The epulis resembles a polyp, is circumscribed and often pedunculated. Fibroma, on the contrary is diffuse and commonly symmetrical.

Therapy: purely surgical.

In conclusion a clinical case is described in detail.

—*Transl., H. A. R.*

111—Broderick, F. W. (Bournemouth, Eng.): **Origin and manifestations of the early, clinical lesions of pyorrhea,** in: Proc. viiith Int. Dent. Cong., Sect. IV: 21. Aug., 1931.

(Extracts from lengthy abstract.)

"The theory is presented that pyorrhea is due to a general constitutional upset which will tend to bring about a state of alkalosis." This will favor the deposition of serumal or subgingival calculus under the gum margins which has been shown by Warwick James to be always present even if only in microscopical amount. The endocrine-autonomic system, which is the defensive mechanism of the body is discussed both from a physiological and psychological standpoint; "and it is shown how this conception affects the matter of chronic sepsis, thus bringing together dental lesions, chronic disease and chronic infection, as dependent upon a common etiological fac-

tor. This visualization will explain the infection of the injured gingival margins, the consequence of tartar deposition, by microorganisms . . . which have taken on parasitic properties in pyorrhea." "Looked at in this manner, it is seen that pyorrhea is not a disease entity at all, but one part, and one part only, of a syndrome or disease picture . . . It must be realized that pockets are not evidence of active pyorrhea, but only of past circumstances favorable for their development."

112—Charbonnier, William (Lausanne, Sw.): **Composition du sang chez les pyorrhéiques.** Composition of blood in pyorrhétic patients, in: Schwz. Mschr. f. Zhkde, xli(6): 577-611. 1931.

The article starts from the following hypothesis: Pyorrhea in a majority of cases is a local manifestation often complex whose remote cause may be deficiency or imbalance of systemic equilibrium. It is nonsense to treat a case of pyorrhea without considering the general condition. There may be certain pyorrheas with purely local causes but the author has not found many such cases; his analyses have shown almost always some systemic disturbance.

Lack of proper hygiene, determining what the Germans call "Schmutzpyorrhoe" is not in his opinion a sufficient etiological factor. Body tissues, if sound, should be able to resist attack without the aid of tooth pastes, mouth washes, etc. The blood and urine should be examined routinely.

Each case of gingivitis however slight should put us on guard and lead us to search for some disturbance of metabolic equilibrium. Patient should be interrogated as to earlier illnesses, family history, etc. Every adult with adenoids should be suspected as pre-pyorrheic.

The author would like to see on the one hand more physicians not specialists, interest themselves in examining the mouth; on the other hand, dentists should interest themselves always more in research and increase their medical knowledge in order to arrive at results. His technique is described in detail, and the results of his examinations of blood and urine are given at great length. His conclusions are somewhat as follows:

1. The amount of urea in the blood is found at the upper limit of the normal.

2. That of uric acid in the urine reaches a proportion plainly heightened.

3. On the other hand, blood cholesterin is lowered.

4. Urinalysis has demonstrated further a marked increase of indol and skatol, sure signs of fermentation and even intestinal putrefaction, established causes of general autointoxication.

—*Transl., H. A. R.*

113—Citron, Prof. Dr. Julius (Berlin): **Die Bedeutung oraler Erkrankungen für die innere Medizin.** The significance of oral diseases for internal medicine, in: Medizinische Welt. Korresp.-Bl. f. Zahnä, lv(8): 340-342. Aug., 1931.

P. 341 . . . Citron believes that marginal indications of disease, even paradentoses can almost never be the causes for general or systemic diseases. Certainly, from the swallowing of pus a gastric condition may present itself.

The author draws the clinical picture of paradentosis. He thinks, that the significance of this disease for the physician lies in the fact that it is often the manifestation of metabolic or endocrine disturbance. It would certainly be hard to say which was primary. Paradentosis is found in diabetes, Basedow's disease, parathyroid dysfunction, ovarian or hypophyseal disturbance. Disturbances of the governing cerebral centers have a corresponding effect on the vegetative system; hence, for example, mental depressive conditions. If a paradentosis is already present, it becomes exaggerated under such circumstances. The author has noticed this especially in widows and in cases of broken engagements. If the functional disturbance ceases, the paradentosis improves. Blood pressure alterations are also observed. Citron has instituted an investigation as to whether special changes arise in the capillaries in paradentosis. It appears from the researches of Jaensch, Mandowsky and Kolm-Groh that arrests of capillary development appear in the oral mucous membrane from the slightest to the most serious degrees. Changes in the nail folds are also observed. Through these capillary affections loci of less resistance occur owing to the irregular blood vascularization.

In conclusion the author explains that the solution of these problems can be arrived at only through the coöperation of doctor and dentist.

—*Transl. abs., H. A. R.*

114—Colon, Dr. Alberto: **L'antagonisme physio-pathologique entre la carie dentaire et la périodontoclasie.** The physio-pathologic antagonism between dental caries and periodontoclasia, in: Tribuna Odont. Cubana. July, 1931. Abs. Rev. Odont., liii(2): 122. Feb., 1932.

In this article the author treats of the organic phase of the subject, leaving the endocrine side for later discussion. He distinguishes two types of teeth: caries-susceptible and caries-immune (pyorrhetic). The pyorrhetic tooth assumes early the aspect of senility; color, generally yellow, shows its high degree of calcification. This excess of calcic ion forms a resistance to intradental circulation. The pyorrhetic tooth is bulky, of a type showing pituitary influence. The great increase in density makes it resistant to attack of ferments and diastases, the usual solvents of the fundamental organic materials of the teeth.

The characteristics mentioned are contrary to those of the caries-susceptible teeth in which dentin and enamel are comparatively soft, which have an exaggerated nerve sensibility and a preponderance of organic matter with a qualitative and quantitative deficiency of calcium salts. All this renders them easily vulnerable to pathogenic attacks.

"The pyorrheic is born, he does not become so." In every pyorrhetic the vagus system is predominant. In the dental pulp there is always vasodilatation, local hypotension, circulatory deficiency, anabolic action, calcic infiltration and hyaloplasmic predominance.

A coincidence of caries and pyorrhea does occur in cases of unstable thyroidism.

—*Transl.*

115—Destizon, Dr. Paul: **Synalgies gingivo dentaires.** Gingivo-dental synalgies, in: La Sem. Dent. (Paris): Presse Dent., xxxiii(1): 29-32. Jan., 1931. Transl. Abs. Dent. J. of Austral., iii(7). 410. July, 1931.

The author has made researches into dental synalgies and found sometimes painful apical regions are in sympathy with remote pathological organs. He cites four interesting cases: 1. woman suffering from leucorrhea for four years, with considerable loss of blood. Health and normal condition reestablished by cauterization at apex of inferior left cuspid. 2. woman, facial tic with agonizing pain, due to attempt at unsuccessful extraction. Disappearance of pain after cauterization apex of first molar, upper left. 3. woman, facial neuralgia for five years. Disappeared after cauterization of area over apex of upper first right biscuspid. Several cases of obstinate constipation were remarkably benefited after cauterization in the region of the lower first left bicuspid.

The author proposes to make a further report on method of localization, etc.

116—Duyvensz, Frans: **Ueber die Bedeutung der Wasserstoffionenkonzentration und Pufferwirküng des Speichels als diagnostisches Hilfsmittel,** in: Tydschr. tandheelk., xxxvii: 530-61. 1930. Abs., Z. Rdsch., xl(12): 533. Mar. 22, 1931. Abs. Ztschr. f. Stomat., xxix: 820. 1931.

Duyvensz believes that the saliva has a marked influence on the teeth and gums and compares its effects with that of the gastric juices on the stomach walls. He noted that in many patients with gingival recession, the smallest portion of the tooth left uncovered by gingiva was at once attacked by caries; whereas in other cases, often the entire root was laid bare without the slightest trace of caries.

Weinmann (Vienna) describes certain forms of diffuse atrophy in which he always found like variations in the specific-dynamic albuminous reaction, to be referred to hypophysial (front lobe) hypofunction. Duyvensz found that in a patient with periodontoclasia of this type the pH tended to the alkaline side; on the other hand, in gastrointestinal cases, the pH was found tending toward acidity.

Even though the salivary examination cannot supersede urinary and blood tests it may yet prove a valuable aid to diagnosis.

—*Abs. of Abstracts, H. A. R.*

117—Epstein, Dr. Irwin A., D. D. S.: **Significance of gingival hemorrhage,** in: J. Am. Dent. A., xviii(9): 1659-65. Sept., 1931. Abs., Dent. Survey, 43. Nov., 1931.

"In this article Dr. Epstein calls attention to the various factors responsible for bleeding at the margin of the gums and includes a number of case reports that are illuminating and instructive. The article ends with the following summary:

1. Patients with hemorrhagic tendencies

commonly have no clinical alterations of the gingival tissues.

2. Spontaneous gingival hemorrhage may be one of the earliest manifestations of Vincent's infection, uremia, thrombopenia, purpura, leukemia or other conditions which have a hemorrhagic diathesis.

3. Spontaneous gingival hemorrhage indicates at once a complete hemanalysis including hemoglobin, total erythrocyte and leucocyte counts, a qualitative differential study of the leukocytes and clotting time and of capillary resistance.

4. Dentists should be familiar with the normal blood values as well as the technic of determining the bleeding and clotting time in order to know whether the bleeding is of local or general importance."

—*Copy.*

118—Fleury, Dr. Val de Grace: **Gingivitis and epulis,** in: La Revue de Stomat., xxxiii: 95. 1931. Abs. Brit. Dent. J., lii(1): 487. 1931.

Dr. F. relates the case of a young soldier whose gums presented the rare condition of a gingivitis combined with epulis. There were several stigmata of degeneracy, such as alopecia, nystagmus and open bite. The mouth was ill kept but except for the loss of a first permanent molar the dentition was complete. The chin was prominent and the ascending rami at an obtuse angle. The gums were hypertrophied and the teeth badly stained. Some of the tumefactions, however, were pedunculated and proved to be epulides.

It is rare to meet with these two conditions in the same mouth and where, as in this case, the transition between them can be observed. Where the teeth were in occlusion the hyperplasia was diffuse; the epulides were confined to the front of the mouth where the teeth did not meet.

—*Copy.*

119—(a) Gelber, Louis J., M. D.: **Oral focal infections roentgenologically considered.** Pyorrhea, see p. 1096, in: Int. J. Orthod., xvii(11): 1095-1100. 1931.

"The most important pathologic conditions with which the roentgenologist has to deal are pyorrhea and alv. abscesses. Pyorrhea in its early stages gives little roentgen-ray evidence aside from a slight increase in the width of the dark line about the tooth, which represents the peridental membrane. As the infection continues and the alveolar process becomes involved, the bone retracts from the neck and finally from the roots of the teeth which are then kept in place only by fibrous tissue of the gums. As a rule, when the retraction of the alveolar process involves more than half the root, the tooth is doomed."

(b) Gelber, Louis J., M. D.: **Salivary calculi,** in: Int. J. Orthod., xvii(11): 1096. 1931.

"Salivary calculi must be mentioned in any consideration of the teeth. They cast a dense round or oval shadow seen in the position of the salivary glands or ducts. When projected upon the mandible in oblique views they must not be taken for areas of density in the bone. The shadows of calcified glands often appear in films taken of the teeth. They are spotted, mulberry-like shadows, characteristic of calcified glands anywhere. The tip of an unusually long styloid process may be projected upon the maxillary molar region and be mistaken for an extra tooth root, or a supernumerary tooth.

In adult teeth, the roentgen-ray examination is of value in demonstrating fractures below the gum level, and in determining the extent of carious processes, the position and extent of root canal fillings and the results of operative procedures. Pulp stones may be revealed in the pulp cavities. They are small, round, dense masses, frequently multiple, which form in the pulp chamber of one or more teeth. They have been thought to be the cause of severe neuralgias, but inasmuch as they are frequently seen without symptoms, their significance is questionable."

—*Extracts.*

120—Gouriou and Mondain: **Pseudocoenestopathie,** in: Presse Med., p. 1169. Aug. 5, 1931.

A report of case of a woman 33 years of age with an acute attack of pain involving the tongue, palate and throat. Three weeks later she developed pain in her gums revealing an advanced case of pyorrhea.

—*A. H. M.*

121—Grohs, Richard, M. D. (Vienna.): **Changes in the peridental membrane of human teeth in traumatic occlusion,** Abs. 53, in: J. Dent. Res., xi (3): 510. June, 1931.

We have studied two jaws where some of the teeth have been in traumatic occlusion

for apparently a long time. The histological specimens show signs of the trauma. The results are thrombosis of the blood vessels and necrosis of the peridental membrane at the places of highest pressure. Around these places resorption of the alveolar bone took place. On the side opposite the pressure, new production of bone was observed. No connection between marginal inflammation and the changes in the peridental membrane could be found. We conclude that teeth in traumatic occlusion should be ground until they come into normal occlusion. If teeth are missing they should be replaced by bridgework. Teeth that have been tipped by loss of neighboring teeth are usually endangered by trauma and should receive special attention.

—*Author's abs.*

122—Grosse, W. F., and F. B. Berensohn (State Institute, Moscow): **Das Blutbild und der bakterioskopische Zustand der Taschen bei der sogenannten Pyorrhea Alveolaris.** The blood picture and bacteriological condition of the pockets in so-called pyorrhea alveolaris, in: Paradentium, iii(5): 145-150; Z. Rdsch., xl(2). 1931.

1. The destruction of the pus-forming microbes in the pockets of pyorrhea alveolaris leads to a general and local improvement in the patient's condition.

2. The change in the blood picture of pyorrhea alveolaris is paralled by changes in the character of the microflora of the pockets.

—*H. A. R.*

123—Hermann, Dr. Franz & Heinz Krey (Frankfurt a. M.): **Die Kapillaren der Mundschleimhaut unter dem Einfluss der Syphilisbehandlung,** in: Paradentium, iii(3): 106-111; Z. Rdsch., xl(28). 1931.

Author's summary:

1. The earlier capillaroscopic observation of sulfide deposition in the endothelium of dilated capillaries has been broadened and confirmed by improved technique. With the deposition, the capillary stasis increases.

2. Just as the dermal capillaries, so also the gingival capillaries show endothelial changes under the influence of salvarsan in predisposed individuals.

3. In the course of antisyphilitic treatments the interdependence of the capillary circulatory disturbances and the following gingival impairment with the constitutional diathesis is demonstrated.

—*Transl., H. A. R.*

124—Hirschfeld, I., D. D. S.: **Suppurative periodontoclasia: a case of special scientific interest,** in: J. Dent. Res., xi(5): 636-7. Oct., 1931. Abs. 5. Sci. Proc. N. Y. Sect. May, 1931.

A case report in this common disease is only occasionally justifiable. One outstanding feature in this case is the age of the patient who was 14 years, 6 months when first seen by the author, and showed several scorbutic symptoms. Suppuration from symmetrically located spiral-shaped pockets was marked. Conditions of special interest were the following:

1. Correction of diet and better home care caused improvement.

2. Ultra-violet and infra-red ray treatment did not prove of appreciable value.

3. The original roentgenograms showed that the roots of the lower lateral incisors were inclined toward the central incisors, thus producing a fan-shape appearance of the group. Soon after the periodontium started to heal, these teeth began to straighten out. They finally assumed a normal vertical position. The writer explains these phenomena as follows:

(a) The roots of the lateral incisors were probably crowded away from those of the cuspids by the expansion pressure of inflammatory tissue in the deep pyorrheal pockets between them.

(b) With the breaking up of this tissue, the pressure tension ceased, thus permitting the roots to drift back to their normal position. A similar phenomenon may frequently be observed where the crown-end of a tooth had in a similar manner been forced out of contact with its neighbor. There, after treatment is begun, the crown moves toward its original position.

4. The mesial root of the lower first molar was originally surrounded by a broad zone of radio-opaque bone such as is frequently observed about a pyorrheal tooth. This radiopacity began to disappear soon after the periodontium showed clinical evidence of improvement. Ultimately it was completely eliminated, and in its place appeared normal bone and a thin, unbroken peridental lamella.

—*Copy.*

125—Keizer, W. R., M. R. C. S., L. R. C. P., L. D. S., R. C. S. (England): **Case of hyperplasia of gums,** in: Brit. Dent. J., lii(1): 484-6. 1931.

This was a case occurring in a girl, aged 11 years and 8 months. Gums were prominent when deciduous teeth erupted. Since then there has been progressive enlargement, until at the present time it causes prominence of the lips.

Fam. Hist.: One brother and sister, neither of whom has a similar condition. No history of same condition either on father's or mother's side.

Signs: Excessive overgrowth in anterior maxillary and mandibular regions. There are troughs around the teeth which retain food. Child 4 ft., 9 in. in height. Increased amount of hair on arms, legs and pubis. Child is dull mentally.

Etiology: Modern theory is that hyperplasia of the gums may be due to hyperpituitrism. Radiographic report of pituitary fossa: Radiograph shows no gross enlargement of the sella turcica when taken in conjunction with head. Parallelism as between anterior and posterior clinoid processes suggestive of early change. X-ray findings in favor of clinical diagnosis.

—Copy. (slightly abbrev.)

126—Kritchewsky, Dr. Bernard V.: **Thèse de Paris,** 1931. Abs., in: Sem. Dent., xiv(20): 637. 1932.

The author reviews the modern theories on pyorrhea and dental caries. He believes that this antagonism clearly exists, basing his opinion on his own (70) published observations. "Caries evolves upon a soil where the exchanges are too active, and hyperproduction of the glands of internal secretion is brought about by the rapidity of the reactions. Pyorrhea arises on a soil where there is hyposecretion; the sympathetic hypotonicity of the slowed reactions favor its development. Caries in pyorrheic patients starts from a pathologic past. An accelerated circulation seems to favor the development of caries, a slowed circulation, the reverse.

The author's hypothesis seems to fall in line with certain chemical facts; which however, it would be interesting to verify by further research."

—Transl. of abs.

127—Lang, F. J.: **Die Bedeutung des Zahnstützapparates für die Erklärung der sogenannten Alveolarpyorrhöe (Paradentitis).** The significance of the supporting tissues of the teeth in the explanation of the so-called alveolar pyorrhea (paradentitis), in: Paradentium, iii(3): 81-85. Z. Rdsch., xl (28): 1931.

"By consideration of the teachings of general pathology in the study of inflammatory processes in the supporting tissues of the teeth (paradentium) we reach the signs and symptoms which these processes cause to develop."

The tooth supporting apparatus consisting of teeth, gingiva, periosteum and bone is a tissue system presenting mechanical characters whose exercise is opposed to the mechanical effects of the masticatory activity. When the supporting tissues are modified a certain degree of disturbance of function is therefore to be expected. These disturbed functions then act as further causes of disease.

On general pathologic grounds, disease of any portion of the supporting tissue must react upon all its functional connections. This is of greater significance since dentistry has become specially interested in the so-called pyorrhea alveolaris—a disease which results in paradentosis.

After a review of the literature, referring especially to his book published in conjunction with Häupl, the author says that "paradentosis" is not a synonym for the term "alveolar pyorrhea," but covers all processes and changes of cells and tissues, both macro- and microscopic, in the paradentium, which are influenced by the various etiologic factors causing the inflammatory reactions.

The concept "paradentosis" in pathologic histology and physiology is of great and widely extended importance. On the one hand, disease changes of any portion whatever of the entire paradentium must affect the other portions; on the other hand, we are in a position to give to functions which under given pathologic conditions cannot work out otherwise a significance in the explanation of the pathologic processes.

128—Metlizki, Dr. J. K. and Dr. G. A. Suchanoff (Minsk, Russia): **Klinische und im Laboratorium gemachte Beobachtungen bei "Alveolar-pyorrhoë,"** in: Z. Rdsch., xl(9): 356-361. Mar. 1, 1931.

Conclusions.

1. In paradentitis morphologic changes arise as also colloid-classic blood changes.

2. Leukopenia has not been observed in early stages.

3. Marked hyperleucytosis, segmentation in cases, the number of lymphocytes increase may reach 46%; also hyperlymphocytosis is clearly seen.

4. In almost all cases we have left deviation of blood spectra (increase of red-shaped bodies and appearance of "youthful" small bodies up to 10%.

5. The number of eosinophiles falls from 3% to 0.

6. The reaction of precipitation of erythrocytes is hastened and reaches 30 or more in an hour.

7. Especially the flora of suppuration must be noted. They are confused and it is hard to determine the predominance of one or another group. In the presence of deep pockets a number of *treponema mucosum (Noguchi)* are found, likewise Ameba buccalis.

8. The clinical picture of paradentitis does not in many cases correspond to the laboratory findings, hence cannot serve as criterion for the severity of the process.

9. On the basis of our investigations in the laboratory, it is our opinion that paradentitis must be counted among the diseases due to constitutional disturbances of equilibrium.

—*Transl., H. A. R.*

129—Moorehead, Frederick B., M. S., M. D., D. D. S.: **Acute infections,** in: J. Am. Dent. A., xviii(1): 87-91. Jan., 1931.

An outline of various acute infections with oral symptomatology or causes.

1. Inflammation of mucous membrane.

a. Acute ulcerative gingivitis (from Gilmer). Advances theory that the spirochete and fusiform bacillus are not the primary cause of this infection but that the disease is caused by their symbiotic relationship with other organisms, notably the cocci. He feels the cocci are the aggressive organisms while the spirochetes and fusiform bacilli are the cause of the gangrene.

b. Vincent's infection. Differentiates this from "a" because of swelling of the lymph nodes and its localization over pharynx and tonsils. Quotes Jochman here as believing the spirochete causing the disease is a specific pathogenic type.

c. Noma. Occurs occasionally with acute infectious diseases.

d. Ludwig's angina. Caused by putrefactive organisms from ulcerous process of mouth entering lymph channels of salivary glands. Unfavorable prognosis always.

2. Alveolar abscess. Gives the classical clinical picture. Stresses need of prevention or early recognition because of tendency of pus to follow soft tissues and forming subtonsillar abscess, or subperiosteal abscess.

3. Septicemia. Emphasizes need for care in oral cavity because of possibility of septicemia.

4. Acute leukemia. In onset disease resembles an acute infection with following symptoms—swelling of tonsils, ulcerative angina, stomatitis, fever, hemorrhages, rapidly progressive anemia. Diagnosis by blood picture.

5. Agranulocytic angina. Etiology obscure—no specific agent found. Is an overwhelming infection in which occurs a neutrophilic leukopenia. Various observers feel the symptoms are produced by a chemical or biologic toxemia. Mouth lesions similar to those in Vincent's infection.

Diagnosis by blood picture. Differentiate from acute leukemia, or poisoning by thorium, arsenic benzol or the roentgen ray.

—*W. Y.*

130—Nassau, Martin: **Ueber den Stoffwechsel des gesunden und erkrankten Zahnorganes.** Metabolism of normal and diseased teeth. Chemical studies, in: Z. Stomat., xxix: 899-908. July, 1931.

Recent findings in general metabolism researches have invaded as well the dental field. Many diseases of the dental organs show only partial symptoms of general disease. Injury to the periodontium by way of the gingival margins injures also the general condition; it may cause disturbances of tooth vitality and heightened reaction of adjacent tissues, as well as paradentosis and caries (lowered resistance to caries.)

—*H. A. R.*

131—Palazzi, Dr. Silvio (Padua): **Guarigione con la colloidterapia di periodontiti croniche apicali con formazioni cistiche,** in: Nuov. Rass. Odont., xii: 123. 1931. Abs. in D. M. f. Z. 50(2): 276. Mar. 15, 1932.

A case of regeneration of the paradentium following colloid therapy. Case report on a lower canine tooth. Treatment as in title.

132—Pitsch, Dr. Georges: **L'arthrite alvéolo-dentaire chronique, maladie locale. Sa cause—sa prophylaxie—son traitement.** Chronic alveolodental arthritis, a local disease. Its cause, prophylaxis and treatment, in: Sem. Dent., xiii(6): 673-685. June 14, 1931.

Case report followed by a discussion of pyorrhea. Patient, a man in robust health, with loosening of teeth and suppuration. Pyorrhea developed on the side not used in mastication. This led the author to believe that artificial mastication is both prophylaxis and cure for pyorrhea. He questions whether tartar is the cause of pyorrhea. He thinks not, and cites certain islanders who live on shellfish and have tartar, despite their worn teeth due to the mastication of shell and the consequent accumulation of shell débris. It seems to him that pyorrheics are those persons who do not chew or not sufficiently—the civilized who talk at table rather than masticate and who eat soft food requiring no real masticatory effort.

The author believes he has proved that tartar is not the cause of pyorrhea; however, it is not desirable, and should not be allowed to remain. He differs from others in his ideas as to the cause of pyorrhea and the succession of symptoms; it is the ligament which is first affected and the tooth is then moved. Persons whose incisors bite upon the palate, especially women, have pyorrhea. Alveolysis then follows, then suppuration; but all this can be avoided and arrested by prophylaxis, and function re-established, if not too far advanced. The answer to the problem is artificial mastication.

—*Transl., H. A. R.*

133—Platonow, Dr. E. (Moscow): State institute Stomat. and Odont.): **Ueber den Zustand der Nerven der Zahnpulpa bei Alveolarpyorrhöe.** On the condition of the nerves of the pulp in alveolar pyorrhea, in: Zeitschr. f. Stomat., xxix(8): 999-1002. 1931.

This paper is the result of histological research on the pulp nerves of teeth loosened by pyorrhea. For some time the author had remarked that the perceptible reaction to the electric current was dependent on the degree of loosening of the tooth to a significant extent. Slightly loosened teeth gave a somewhat heightened reaction in comparison to sound teeth, while the reaction in quite loosened teeth was diminished. This drew our attention to the condition of the nerves. Important researches could not be found in the literature to demonstrate this point.

The author describes the technic followed in preparing the nerves for examination. The microscopical study gave a characteristic picture of the neuritic process as also in the myelin sheath (varicose alterations, corneous degeneration, demyelinization, etc.). The interdependence between the degree of mobility of the tooth and the above described changes could usually be demonstrated.

Very important questions in theoretic as well as practical respects arise, for example: how and by what causes these changes above mentioned occur in the nerve fibers of the dental pulp. Commonly, degenerative alterations occur in peripheral fibers, after the functional connection between these and the nerve cells is deranged; but there is also a possibility of local conditions for degenerative changes in the peripheral nerves remaining.

The above alterations may also have a secondary origin, and occur subsequently to pathologic processes as for example, hyperemia, or a locally heightened sensibility (Hulin, l'Odontologia 1929 No. 1).

Whether we have to deal with changes of primary or secondary origin, can only be determined by histologic research of the periapical region and still higher, reaching even to the ganglion cells. Special attention must be paid to the fibers of the vegetative nerve system. Work along this line may open up an entirely new path to the explanation of the essential origin of alveolar pyorrhea in connection with the extraordinarily important rôle of the vegetative nervous systems.

—*H. A. R.*

134—Pollia, Joseph A., M. D.: **Newer concepts of focal infection,** (See p. 92) in: J. Dent. Res., xi(1): 83-107. Feb., 1931.

Pollia considers pyorrhea more important as a focus of infection than periapical disease, owing to its rich bacterial flora and wide

surface exposure, giving contact with the infection to more blood—and lymph vessels. Unnecessary emphasis has been laid upon periapical lesions because the treatment of pyorrhea is less spectacular than extraction. Less trauma is produced, hence there is less non-specific protein reaction.

135—Precht, Prof. Dr. (Univ.-Inst. Königsberg): **Über den Funktionswert des Lückengebisses,** in: Z. Rdsch., xl (14): 594-609, (15): 633-638. 1931.

With our diet of today, traumatic occlusion due to masticatory pressure alone is not to be feared, provided the widely spaced dentition with gaps is free from paradentosis. Further, a complete destructive metabolism of the nutriment by the digestive apparatus can only take place when the food finely divided by thorough mastication is subjected to the fermentative activity of the ptyalin. Certain authors hold that only a normally spaced dentition can be in perfect occlusion, that is, articular equilibrium. Each gap in the row of teeth upsets this equilibrium, and through shifting of the adjacent teeth leads to an alteration in the entire dentition which threatens its function.

This teaching dominates the modern prosthetic system to such a degree that presence of a gap is regarded as a fundamental indication for a prosthetic restoration.

This author feels that in no way is every gap in a dentition an unconditional indication for the preparation of a substitute; and believes that the substitute may do far more harm than the space.

—*Abs. from art., H. A. R.*

136—**Query,** in: J. Am. M. A., xcvii (7): 482. Aug. 15, 1931.

A physician asks for cause, prognosis, and treatment of case of marked "retraction of gums" and loosening of teeth in patient with well-cared-for mouth. "This patient has never had pyorrhoea." In reply it is stated that although there are no gross evidences of inflammation, the case rightly belongs in the pyorrhoea group, "Gottlieb's Diffuse Atrophy of the Jaw Bones" or a Pre-senile Atrophy. These cases without obvious local inflammatory symptoms are comparatively rare and prognosis, from the standpoint of saving the teeth, is unfavorable. In many there is metabolic or endocrine disturbance. A basal metabolism showing the dynamic effect of food rich in protein is quite characteristic. "However, no form of therapy based on constitutional findings has been found at all promising." Meticulous care is recommended in removal of all local irritants of every kind; the relief of overload on teeth, and of stresses in abnormal direction. Night grinding of teeth should be looked to as a positive factor. Loose teeth may be temporarily supported by splints. Potassium arsenite taken internally has seemed to have a favorable influence in retarding recession of the gums and alveolar bone.

—*C. R.*

137—Retterer, Edouard, Prof. (Opening lecture at l'Ecole Dentaire, Paris): **De la dent et des conditions de sa vitalité.** Concerning the tooth and the conditions for its vitality, (See discussion of pyorrhea, pp. 767-769), in: Sem. Dent., xiii (5): 759-771. May, 1931.

The author describes the disease as he has seen it on the gingival mucosa and jaws of chimpanzees. In a wild state these animals have abundant nourishment and exercise; in captivity, they are confined to less space and air, and to less variety in diet. At the end of some months, the gingiva becomes congested, swollen, finally suppurating; the teeth begin to loosen and fall out. The picture is the same as that in human arthritic, gouty, chlorotic, dyspeptic and diabetic subjects.

Under the microscope the first modifications consist in changes in the gingival mucosa—desquamation of epithelium and transformation into lymphoid tissue. Microbes implant themselves in these fungoid masses, from which they reach the alveolar border and the peridental membrane; the pus becomes thick and fetid. Finally the gum becomes detached, the teeth are loosened and fall out. Various explanations are cited from Ormuzd and Ahriman down. For a long time the mechanical factor has received little notice. Attention of the practicians has been recently drawn to it by the observations of Pitsch on himself. He is arthritic and has observed pyorrhea pass over to the inactive side due to absence of exercise. The author agrees so far with Pitsch but attributes greater influence to a general lack of resistance, not neglecting local causes of irritation—defective fillings, absence of contact points, etc., which set the disease in action.

—*Transl., H. A. R.*

138—Rosenthal, Dr. J. (Bruxelles, Belgium): **Origin and development of first clinical manifestations of pyorrhea,** in: Proc. viiith Int'l Dent. Cong. 1931. D. Cosmos, lxxiv(2): 201. Feb., 1932.

Numerous theories have been set forth on the etiology of pyorrhea. Every scientist, every clinician works out his own. No unity is effected between these often contradictory theories.

The first symptoms are the most important to find out, for they could help to get at the causal problem and the early diagnosis of Fauchard's disease, making its therapeutics easier and more reliable.

Unity of view on the evolution of the disease has not yet been reached and the perusal of authors shows considerable variance as regards the nature of primitive lesions on the tissues first injured.

It seems to the author of the report that in France, more than elsewhere, there is a nearer approach to truth (Vincent, Hulin). But the Miller of pyorrhea is yet to come.

—*Copy.*

139—Roy, Prof. Dr. Maurice (Paris): **Quelques observations de névrites pulpaires.** Neuritis of the dental pulp, in: L'Odont., li: 791-4. 1931.

The author described a clinical picture of a disease which he calls "pulpal neuritis and which always occurs in pyorrheic teeth. Subjectively, there are no symptoms; objectively, there is a yellow coloration of the tooth. Radiologically there is calcification of certain areas, of the entire pulp canal. The vitality tests results according to the progress of the disease. Three cases are described with radiographs.

—*Transl., H. A. R.*

140—Sachs, Dr. Hans: **Die Bedeutung der Wechselbeziehungen von Körper und Seele für die Aetiologie und Therapie der Paradentose.** Significance of the correlated interchanges of body and mind in the etiology and therapy of paradentosis, in: Z. Rdsch., xl(47, 48 and 49): 2085-2168. 1931.

The author feels that in this paper he has elucidated the interplay of body and mind in paradentosis. We can understand, explain and deal with the etiologic role of the mental factor in many cases of paradentosis; but therapeutically, with the exception of certain definite cases, we still stand at the threshold of our art.

Psychoanalysis for mental cases is compared with the surgeon's knife for physical conditions. By it in the one case bruxomania is completely cured, in another sexual anomalies are put an end to; in still a third the relief of depression is accomplished by removal of suppressed complexes. These are small things on which to base a therapy of paradentosis but must not on this account be despised.

The author does not wish to be misunderstood in having said that endocrine research has not brought us too far in the recognition and treatment of alveolar atrophy. In the complicated picture of paradentosis, even the least likely observations need to be carefully examined and evaluated. Each case may result from the interaction of five to ten or more factors, the percentage of whose share is hidden, but if each is not given attention, serious errors may be made in treatment. Loos may consider the dermal capillary system the most important factor, Weinmann the basal metabolism, Heinrich the libido preoccupation; as the all powerful panacea one may believe in rubber toothbrushes, a second in a certain drug, another in the curette. But the nucleus of these processes involved in one another must be reached. Not, however, by microscope and section, not by rules or nomenclatures, but by the art of medical insight (intuition) which permits the grasp of mental and corporeal sides of the patient at the same time and seeks to establish the unity of the personality as fundamentally as possible.

—*Transl., H. A. R.*

141—Schwab, Dr. H. (Paris): **Diabetes mellitus: oral symptoms,** in: Abs. Dominion Dent. J., xliii(11): 343. Nov., 1931.

As the dentist often sees these patients first, Doctor Schwab enumerates the signs to be looked for. Frequently stomatitis with dry mouth. The tongue may look normal, but be enlarged, its edges swollen with teeth indentations, fissures or even small abscesses on its surface. A sweet metallic taste and a hairy surface on the organ. In severe cases it may be of a geographic appearance or simulate raw meat.

Gums may be swollen, red and spongy; and in severe cases atrophy may occur with exfoliation of teeth. Caries is frequent, begin-

ning usually with the second molar opposite the ductus stenosus; one often sees periostitis alveolaris, alveolar atrophy, and alveolar pyorrhea. The salivary secretion is often decreased, viscous and poor in ferments.

Oral treatment must reach the basic complaint. Stiff toothbrushes avoided and 3% sodium hydrocarbonate mouth wash advised, due to the acid saliva. Lime preparations are indicated. Extraction to be avoided except in extreme cases only, and then the minimum at one time. Morphia to be avoided since it causes hyperglycemia.

—*Abs., by Dr. L. McIntyre,*
(Edmonton, Australia)

142—Sedginidse, G. A.: **Early diagnosis of pyorrhea by means of x-rays,** in: Amer. J. Roentgenology. Abs. Dominion Dent. J., xliii(3): 81. Mar., 1931.

Of 2,000 cases of pyorrhea alveolaris, in 685 or 29.2%, the X-ray diagnosis could be made before there was evidence of clinical manifestation of the disease. 43 of these cases were observed periodically for one year and ten months and the successive stages recorded.

It was found that in the beginning there is an evidence of an atrophy and inflammation of the alveolar process alone. Only later does the inflammation extend to the periodontium and to the gums producing the well known picture of the disease. It was also found that pyorrhea alveolaris as a rule starts with the lower central incisors from which it extends to the upper central incisors and then to the other teeth. It is evident that an early diagnosis of pyorrhea is imporant from the standpoint of prognosis and therapy. So it is advised that in all suspicious cases a complete X-ray examination of the mouth be made early.

The author is of the opinion that the bone atrophy which was found to be the primary manifestation of the disease does not represent a nosologic entity but that it is merely a symptom incidental either to trauma or to some inflammatory process. Further experiments are in course in order to elucidate this problem.

The author suggests that in addition to the four stages described by Neumann and Faulhaber, a fifth stage of pyorrhea incipiens be distinguished. This stage can be diagnosed roentgenologically months or years before there is any clinical manifestation of the disease.

143—Spiro, Dr. Paul (Univ. Frankfurt a. M.): **Zum eosinophilie Problem.** Study of curves of a case of paradentosis, in: Paradentium, iii(3): 85-89: Z. Rdsch., xl(28): 1931.

The eosinophilia of the blood was chosen as a subject in honor of Otto Loos, because of its immediate relation to his lifework—the paradentosis problem. In recent years this problem has developed from a purely clinical to a pathohistologic one. The observations of the earliest workers saw in the eosinophilic diseases (bronchial asthma, mucous colic, especially vegetative neuroses), a vagusneurosis. This theory was shattered by animal experimentation. The different types of eosinophilia may be divided into three large groups:

1. Those of demonstrable allergic genesis.

2. Those in which allergic origin is not demonstrable but still likely.

3. Those of non-apparent but rather probable allergic origin.

Examples of (1): anaphylaxis, idiosyncrases, bronchial asthma, mucous colic, hay fever, nettle fever (urticaria), Quincke's edema, migraine, epileptoid migraine, helminthiasis, etc.

Examples of (2): Articular rheumatism, intermittent joint swelling, chorea, etc., croupous pneumonia, infectious diseases.

The article is illustrated by curves of cases treated by irradiation of the spleen (asthma, allergic neurodermatitis and paradentosis).

From such researches, it appears that even the asplenic or hyposplenic eosinophilia may with likelihood be classed with allergic eosinophilia, or, to quote Dr. Spiro, "Each allergic eosinophilia may be asplenic or hyposplenic . . . an expression of a hypofunction of the spleen or of the reticuloendothelial system, most strongly concentrated there."

By means of such studies whose practical value is obvious, the problem of the significance of eosinophilia returns to its clinical starting point. For from this tendency it results that each case . . . must be regarded as the expression of a lowered function, obviously a *partial* hypofunction. The treatment is then to supply more spleen—be it in form of splenic preparations or by irradiation of the spleen. Therefore, for example, splenic

irradiation in eosinophilic paradentosis may come to be advocated as a trial of constitutional therapy.

—*Transl. from article, H. A. R.*

144—Temesvary, N., Dr. (Budapest): **Zahnkrankheiten und Schwangerschaft.** Dental diseases in pregnancy, in: Monatschr. f. Geburtsh. u. Gynäk, lxxxvii: 527-531. Apr., 1931. Abs. Dominion Dent. J., xliii(11): 343. Nov., 1931.

Dental diseases in pregnancy occur usually in the fourth month and often last up to 6 or 8 weeks before delivery. The following come into consideration:

Hypertrophic gingivitis, which is supposed to appear in about 60% of all pregnant cases, caries, epulis, looseness and brittleness of teeth, periostitis, flow of saliva, disturbances in the sense of taste, stomatitis, aphthosa, glossitis, and vicarious hemorrhages of the gums. The causes lie in improper nourishment, in digestive disturbances, frequent vomiting and acid saliva, inadequate care of the mouth and teeth as well, changes in the lime metabolism and alterations in the fluorine containing salts necessary to the skeletal formation of the child play a part.

Hormonal disturbances can lead to tooth troubles as well as the other toxicities of pregnancy. The author recommends painstaking care of the teeth and mouth, due to the danger of abortion in the first three months. Extractions to be avoided during the 4th, 8th and 12th week after the last period.

Midwives should also be warned to keep their mouths in first class shape to avoid infecting their pregnant patients.

—*Abs. by L. McIntyre, D. D. S.,*
(Edmonton, Australia)

145—Vásquez, Angel: **Les gingivorrhagies.** Gingival hemorrhages, in: Vida Medica (Madrid) no. 340: 9. 1931. Rev. de Stomat., xxxiii(4): 246. Apr., 1931.

With extraordinary frequency, the tubercular cases followed by Vásquez present hemorrhages not limited to mere threads of blood staining the saliva but often of serious import by their copiousness and repetition. In these cases may be noted results from a chronic gingivitis treatment which is sufficient to cause the disappearance of the hemorrhages. By its repetition, however, an inflammatory condition of the gum may result. A local form of treatment is accordingly necessary in all these cases. Vásquez advocates the cauterization of the interdental spaces ("argentophénol) and the local use of the ultraviolet rays.

The gingivorrhagia is not apparently correlated with bacillary lesions. It corresponds most often to some glandular deficiency of the organism involving vascular modifications. Vásquez uses the usual general therapy (serum, peptone and optherapy).

—*Transl. abs., H. A. R.*

146—Weinmann, Josef: **Concerning disturbances of metabolism in paradentosis patients,** in: Zahnärztl. rundschau., ii:1767-69. 1931.

Weinmann contradicts the statement of Boenheim (D. M. f. Z. 50: 123) that there now exists a far-reaching agreement between the Berlin and Vienna schools.

Boenheim considers only those cases of paradentosis in his studies of metabolism with normal or heightened basal metabolism; while, on the contrary, Weinmann has made statistical studies of cases with lowered metabolism also. These authors differ further as to the specific dynamic protein action which Boenheim arbitrarily increases, thus tending to diminish the number of cases in which the specific dynamic protein reaction is depressed. Weinmann expresses doubt as to whether the paradentosis patients with metabolic disturbances described by Boenheim really had the acute diffuse atrophy of Gottlieb.

—*Transl.*

147—Weinmann, Josef: **Stoffwechseluntersuchungen bei der diffusen Atrophie des Alveolarfortsatzes.** Metabolic researches in diffuse atrophy of the alveolar process, in: Z. Stomat., xxviii (12): 1154. Dec., 1930. Cited by Dr. Martin Nassau, ibid, xxix(7): 907. 1931.

The heightened reaction capacity of the investing tissues as is shown in paradentosis, is, Nassau thinks, likewise to be referred to the disturbance of normal oxidative processes. Weinmann has done much to clear this up: he has made thoroughgoing researches on the sugar thresholds in his patients and concludes thus: a large part of the diseased cases shows a heightened blood sugar picture due to the existing diminished carbohydrate

tolerance. Weinmann makes also the interesting statement that severe cases of diabetes with paradentosis form only a small percentage of the diabetes occurrence; while, in the familial anamneses diabetes may appear as a relatively common disease. So that a fixed pre-disposition to diabetes is not to be rejected without careful consideration.

—*H. A. R.*

148—Williams, John Bell, Ph. G., D. D. S.: **Diabetic pyorrhea,** in: Am. J. Med. Sci., n. s., 182: 807-810. Dec., 1931.

The author finds the similarity between ordinary and diabetic pyorrhea so striking as to indicate the possibility that some patients are being treated for pyorrhea who should at the same time be under a physician's care for diabetes. The changes in color, consistency, shape and character of the gums with dry skin, thirst and loss of weight should at least make the dentist suspicious.

He concludes as follows:

1. A study of 138 diabetics demonstrated that the oral cavities present certain characteristics in this condition.

2. These modifications of the dental tissues are so nearly constant as to constitute a clinical entity.

3. The number of pyorrhea patients who have diabetes is small while the percentage of diabetic patients who have pyorrhea is large.

4. It is unwise for the dentist to attempt to diagnose diabetes by oral changes alone. The safest method is coöperation with a physician in making complete examinations which of course include the appropriate study of the blood and urine.

5. With insulin and a controlled diet, the surgical procedure necessary to removing foci in the oral cavity can be undertaken with almost the same assurance as in non-diabetics.

6. The elimination of these foci by the coöperation of the dentist and internist is not only safe but also may be the deciding factor in the case.

—*Copy.*

149—Wolff, Dr. T. (Berlin): **Inflammatory processes of the mucous membrane of the mouth,** Abs., in: J. Am. M. A., reprt'd in Dominion Dent. J., xliii(9): 264-265. 1931.

The following forms might be cited: *gingivitis marginalis,* swelling and reddening of the dental papillae near the edge of the teeth, the gums bleed slightly.

Therapy: removal of tartar, of projecting fillings, of protuberant edges of crowns. Wash the mouth with hydrogen dioxide, dab places with chloride of zinc. No strong mouth washes; soft toothbrush, rinse mouth with dilute tincture of myrrh, camomile or sage tea. The mouth is filled with the liquid and the lower jaw gently moved up and down.

Gingivitis gravidarum diffusa: Hypertrophic lobe-like proliferations. Therapy, only necessary if the swelling is very strong and does not recede after delivery; see *gingivitis hypertrophica,* with *g. menstrualis;* the inflamed edge of the gingiva stands out in sharp contour against the normal mucous membrane. Spontaneous recession after menstruation. *G. hypertrophica* usually with endocrine disturbances or disturbances of metabolism, shows a bluish red color of the papillae of the teeth, which are thickened and bleed easily. The edges of the gums are hypertrophic. The lingual part is detached from the buccal part by granulation tissue.

Therapy: for the facilitation of the removal of tartar and cauterization of granulations, injection of strongly diluted sulphurous acid into the gingival sacs, rinsing with water and drop by drop instillation of quinine-tannin solution for the disinfection and tanning of the granulations. At home rinsing with tincture of myrrh. After removal of tartar massage the gum with the finger wrapped in cotton or use vibration massage.

Gingivitis atrophicans: similar to gingivitis marginalis, the edges of the gums recede from the necks of the teeth and expose them. Therapy as in G. marg. Ging. *atrophicans denudans*—the gums swell on the buccal side so that a small fissure arises toward the point of the root, exposing the neck of the tooth and sometime even part of the root. Great sensibility to heat and cold, neuralgiform pain.

Therapy: removal of tartar, inunction of the neck of the tooth with pot. carbonicum. The remainder of the article is concerned with forms of stomatitis, black tongue, etc.

—*Extract.*

150—Zemsky, James L., D. D. S.: **Hypercementosis in relation to unerupted and malposed teeth,** in: J. of Dent. Res., xi(1): 159-174. Feb., 1931.

At the end of his careful and well illustrated article, the author gives the following summary and conclusions:

A condition characterized by an excessive growth of cementum, which is easily recognized on certain extracted teeth and roentgenograms taken of them, is called hypercementosis. This condition has been found associated with both healthy and diseased teeth. The cause of hypercementosis has not been determined. Opinions regarding this condition differ: some maintain that it is beneficial; others, that it is pathological and should be eradicated. Thus, the status of hypercementosed teeth is uncertain. As a consequence many hypercementosed teeth are being sacrificed. This situation warrants further study of the problem.

The present writer suggests that all who may be engaged in the study of hypercementosis should cooperate and report all their findings while their work is being conducted.

The report herein presented is a study of five cases of unerupted, impacted and malposed teeth presenting no evidence of any pathological condition. The microscopical and clinical examinations of these teeth reveal the presence of marked hypercementosis involving various portions of the root..

Hypercementosis having been found on unerupted, impacted and malposed teeth, which presented no pathological signs, this condition cannot be due, in all cases, to infection as some writers believe, and therefore cannot always be considered pathological.

—*Copy.*

(f) Treatment

(Continued from page 158, July, 1932)

149—Aleman (Cluj): **Paradentosis,** in: Proc. Int. Kong. Stomat. (Budapest). Sept., 1931.

The author advocates the use of vaccine therapy with streptococcus viridans mitior, pneumococcus, staphylococcus, as well as other microbes present upon the glucose bouillon; also the modified operation of Neumann and Widmann should be used. The use of individual splints is discussed.

150—Anthony, L. Pierce, D. D. S.: **Surgical treatment of pyorrhea alveolaris,** in: D. Cosmos, lxxiii(7): 717-723. July, 1931.

This editorial directs attention to several articles in the July, 1931 issue of the Dental Cosmos on the subject of surgical treatment of pyorrhea alveolaris, particularly the article by Doctors Crane and Kaplan, which embodies in a scientific manner our present conception of the application of surgical principals to the treatment of this disease.

Doctor Anthony states that while he does not wish to discount the unquestioned importance of the local treatment of pyorrhea, he is inclined to the belief that the results from local treatment by surgical methods are so encouraging that we are apt to overlook or underestimate the importance of equal consideration of the constitutional phase of the treatment if the supposed cures are to prove permanent. Diet is also an important consideration.

The writer believes that the discussion of terminology has done much to confuse and obscure the issue. Almost every writer on the subject has criticized the term "pyorrhea alveolaris" and almost as many terms have been suggested as there have been writers on the subject. In spite of the many suggested substitutions, the name "pyorrhea alveolaris," like Tennyson's brook, goes on forever, both pathologically and etymologically.

—*D. M.*

151—Barkann, Lillian, D. D. S.: **A new painless treatment in periodontal disease,** in: D. Cosmos, lxxiii(7): 674-677. July, 1931.

In the treatment of periodontal disease it is necessary to find an anesthetic which possesses the following features: (1) painless administration; (2) it must not coagulate albumen; (3) have no deleterious effect on either normal or diseased tissues; (4) it should anesthetize only a given area without discomfort to the tongue, adjoining tissues or to the rest of the mouth; (6) it should not interfere with healing.

Barkann presents the results of experimental work in the use of acetyl-salicylic acid (aspirin) as an aid in the treatment of periodontal disease. She reports several clinical cases from private practice in which favorable results have been obtained by the use of this drug. She emphasizes particularly its analgesic and antiseptic properties.

The tablets should be dissolved in water to form a thick mass and applied to the area which has previously been dried. It should

remain firmly packed around gum for fifteen minutes. This makes the area comfortable for about one hour.

The author has noted that the after-effect in this treatment is that post-operative pain is entirely absent or reduced to a minimum. Degenerated necrotic tissue and the return of hypertrophic tissue after the operation has not been noted.

—*D. M.*

152—Becker, W. A.: **Het steunapparat als therapeutisch hulpmiddel bij aandoeningen van het paradentium.** The supporting apparatus as therapeutic aid in the diseases of the paradentium, in: Tijdschrift von tandheelkunde, xxxvii: 562-65. 1930. Abs., Z. Rdsch, xl(12): 533-534. Mar., 1931.

The continuous movement of loosened teeth causes an irritation that may be eliminated by ligating and splinting the loose teeth to, for example, the canines which are stronger and more firmly seated by nature. The article advocates use of a special apparatus.

—*Transl., H. A. R.*

153—Blass, J. Lewis, Ph. D., D. D. S.: **Medicinal aids in conservative periodontal treatment,** in: D. Cosmos, lxxiii(7): 671-674. July, 1931.

Blass believes that if dentists follow a conservative line of treatment in periodontal diseases it is not necessary to use a great many medicines. As adjuncts to treatment, however, the use of drugs is permitted. The proper medicaments, carefully applied in selected cases, facilitate the progress of the work and enable us to carry it on with the least amount of discomfort to the patient. The drugs are so chosen as to accomplish their purpose with as little chemical irritation to the tissues as possible.

The author makes an outline of those drugs and their combinations which have been found useful in periodontal treatment, and lists them under the phases of the work as followed out in the routine advocated by Stillman and McCall.

Prescriptions are given for drugs to be used in the balancing of occlusion, the treatment of sensitive teeth, scaling and curetting, porte-polishing, treatment of pockets, tooth brushing, Vincent's infection and for other conditions. There is also a pertinent chapter on the care of drugs.

—*D. M.*

154—Bracchetti, Guido: Monograph. (Pavia, It.): **L'odierna pratica in tema di paradenziopatie. (Diagnosi e terapia.)** Daily practice in the treatment of paradentosis, in: Ann. Clin. Odont., viii: 487-557. 1931.

New blank forms for the anamnesis, local findings, radiology; local evidences of disease; distant lesions, etc.

As to treatment the author employs trichloracetic or lactic acids; Pregl's iodine solution; he praises highly the Dunlop treatment*, uses in certain cases, also endocrine therapy.

Nothing especially new.

(*For account of Dunlop method see Jour. of Period. iii(1): 32. Jan., 1932. Abs. 51, (Gottlieb).)

—*H. A. R.*

155—Brahy, Dr. E.: **Les vaccins en stomatologie.** (See page 5, pyorrhea alveolaris), in: Revue belge de Stomat., xxviii: 1-13. Mar., 1931.

The author describes four cases. Brahy follows *Tellier's* definition of pyorrhea, "a chronic pathologic condition of the gingivo-alveolo-dental region marked by progressive destruction of the supporting tissues of the teeth and ending in their loss with frequent appearance of suppuration."

He uses doses of vaccine somewhat stronger than those advised by Goldenberg, two or three drops even at the first sitting continued week by week if necessary with excellent results.

—*Transl., H. A. R.*

156—Bryan, A. W., D. D. S.: **Is the matter of diet emphasized sufficiently to dental periclasia patients?,** in: J. Am. Dent. A., xviii(10): 1893-1899. Oct., 1931.

According to the author diet is an important factor in obtaining results in the treatment of pathologic oral conditions. Howe, McCollum and others have proven the effect of lack of vitamins and minerals in bone and gingival tissue, and have reported that when vitamin C is lacking, the capillary circulation in the gingivae breaks down and a con-

dition of swelling and enlargement results in these areas.

In experimenting with the diet of guinea pigs the writer found that destruction of the alveolar process occurred more rapidly on a diet of soft rolled oats than on one of whole oats; thus showing that increased muscular activity in the mastication of coarse food resulted in more blood being carried through the tissues at a given time. Since the food habits of our race cannot be easily changed, toothbrush massage will probably replace tissue massage with coarse foods.

Observations show that lack of minerals and vitamins lower the general health of the patient. Patients suffering from periodontal disease are frequently sufferers from chronic constipation, and the absorption of toxins from a sluggish bowel may be a more important factor than is realized. By advising the older patient to drink more milk and to balance his diet with the proper amount of each of the vitamins, his general resistance can be built up and the quality of his supporting tissues improved. The author feels that diet has not been sufficiently emphasized to periodontoclasia patients.

—*J. W.*

157—Chichester, A. S., D. D. S.: Periodontoclasia, in: J. Am. Dent. A., xviii (12). Dec., 1931.

Dr. Chichester's routine procedure embraces six different steps as follows:

1. General physical examination of patient in all advanced cases, or where pus exists; 2. Full mouth roentgenologic examination; 3. Local premedication; 4. Eliminate all gingival irritants, deposits and faulty dental restorations; 5. Drainage of pockets; 6. Rehabilitation of inter-proximal tissues. He educates his patients regarding the seriousness of mouth infections, from the standpoint of general health, esthetics, facial symmetry, comfort and utility, and by instructing the patient in a comprehensive program of home care of the mouth. This program embraces dietary regulation, and the correction of faulty elimination, together with means of stimulating inter-proximal tissues, and the cleansing and polishing of the exposed tooth surfaces.

The author contends that the last step has, perhaps, a greater influence on the prognosis of the disease, than any other. He suggests the use of a special brush of his own design. This brush used as a porte-polisher, reaches the concave surfaces of molar roots. Wisps of cotton, tied at two-inch intervals on dental floss, may be used to advantage, instead of tape in cleaning these surfaces.

Dr. Chichester emphasizes the economic aspect of such treatment, for the reason that it tends to protect people from the expense of costly reparative restorations and prolongs the life and usefulness of the natural teeth.

—*R. S. T.*

158—Cohn, Franz, Dr. med.: Berührungspunkte der Balneologie mit der Zahnheilkunde auf Basis biologischer Krankenbetrachtung, in: Paradentium, iii(4): 124-131 and p. 160-167. Z. Rdsch., xl(37). 1931.

The views of a number of German authors (Herz, Euler, Loos and Weski, etc.) on the etiological relations of general systemic conditions to paradentosis are reviewed followed by a discussion of the German bathing resorts.

—*Transl., H. A. R.*

159—Crane, A. B., D. D. S. and Kaplan, Harry, D. D. S.: The Crane-Kaplan operation for the prompt elimination of pyorrhea alveolaris, in: D. Cosmos, lxxiii(7): 643-653. July, 1931.

In order to arrive at a rational conclusion as to the operability of a case it is necessary in addition to the radiographic examination to make a careful clinical study of the teeth and supporting structures. If upon examination a condition is found where the pocket extends beyond the middle third of the supporting process, operation is contraindicated as the chances for success are too remote. Occlusion of the teeth should be noted and where correction of the trauma would be temporary, extraction is advised.

The operation is preferably performed under local anesthesia and with the best practical surgical asepsis. The first step in the operation proper is the establishment of the depth of the labial, buccal and lingual pockets as a guide for the primary incision. A nick is then made in the overlying gum with a sharp pointed knife indicating the depth of the pocket. This process is repeated on each tooth. An incision to the bone is now made with the knife connecting the points of incision. When the gum tissue is connected thru the interprox-

imal spaces it is incised and separated with a sharp knife.

By blunt dissection beginning at posterior part of mouth on one side the labiobuccal tissue is removed. This operation is repeated on the lingual. The next step is the curettement of the diseased tissue from the interproximal spaces. The débris consisting of granulomatous tissue, chronic bone fragments, salivary and serumal calculus, and foreign bodies are removed from interproximal spaces and other areas.

Following the operation a cement pack is used to protect the areas operated upon which is left in place for about eight days. The case should be inspected at intervals and at the end of this period the packing is removed. A new basement membrane of connective tissue will gradually form completely covered with new epithelium. Correction of any traumatic occlusion is now made and with the cooperation of the patient success of this operation is indicated.

—*A. C. H.*

160—Crane, Arthur B. and Kaplan, Harry: **"The Crane-Kaplan operation for the prompt elimination of pyorrhea alveolaris,"** in: D. Cosmos, lxxiii(11): 1131-32. Nov., 1931. (Corres.)

Although a controversial letter in reply to criticism, this article gives an excellent rapid review of pyorrhea treatment from Robitzeck of Vienna in 1862 down to the present.

—*H. A. R.*

161—Djindjian, H. (Chief of Clinic, Sch. of Dent. Surg. and Stomat. de Paris): **El tratamients de la piorrea alveolas y los rayos ultra-violeta. Le traitement de la pyorrhée alvéolaire et les rayons ultra-violets.** Treatment of alveolar pyorrhea and ultra-violet rays, in: La Odont., xl: 281-85. 1931. Sem. Dent., xiii(1): 87-92. Jan. 25, 1931.

The very fact of the multiplicity of treatments reveals exactly how ineffective they are. Pyorrhea alveolaris is a syndrome, an alveolodental arthritis, more or less chronic, characterized by suppuration progressing from neck to apex, and evolving on a soil generally arthritic. From an anatomopathologic viewpoint, the lesions predominate at the level of the ligaments which become detached, and of the alveolar walls, which are thinned, atrophied, fatally resorbed. The gums are often inflamed; the cementum of the attacked tooth roots is destroyed or becomes rugose. The alveolus is filled with pus. All these destroyed tissues are replaced by a kind of granulation tissue.

The causes may be local or general.

The ultra-violet rays are a cellular stimulant. 8 to 10 applications (twice weekly) are sufficient for a favorable result. The ultra-violet rays may be combined with the infra-red rays, which evoke hyperemia due to vaso-dilatation, thus favoring considerably the biologic action of the former (rays).

Radiography should be employed before and after. The ultra-violet rays improve the general condition by drying up the suppuration. They finish and guarantee a cure without recurrence. The best practical result is the conservation of the teeth, for as long as possible.

—*Transl., H. A. R.*

162—Dobkowsky, Dr. Theodor (Magdeburg): **Nachprüfung der gebräuchlichsten Mund-Spülmittel und Mund-Desinfektionsmittel.** Analysis of the most used mouthwashes and disinfectants, in: Z. Stomat., xxix(6 and 8): 977. 1931.

1. The reaction of all pastes with Ca carbonate as their base is either neutral or alkaline. An acid reaction occurs in Pepsodent which is based on the tricalcic phosphates.

2. The taste of all tooth pastes might be called pleasant, though different individuals may differ as to this point. It is actively influenced by ethereal oils, especially Ol. menth. pip.

3. The deodorizing action is strong and satisfying in them all, due to the odor disguising qualities of various correctives. This activity is increased by the mechanical cleaning power of the base which, with the aid of the toothbrush, removes the detritus, or with aid of the foam in the soap and acid containing pastes; this foam may reach points inaccessible to the brush. In the soapy pastes, by their oxidizing action a real deodorizing influence is exerted.

4. The microscopic picture was not important in any paste. The method of production seems today to be so far improved that large or sharp crystals are no more seen unless very insoluble substances are used.

5. *In vitro* some pastes appear to be strongly bactericidal; *in vivo*, lessening of the bacteria is a matter of only secondary importance in all tooth pastes.

6. Arrest of decay figures in only the least degree. It could hardly be otherwise, since their conserving qualities depend on their very slight antiseptic action *in vivo*. ("Lacalut" tooth paste is specially mentioned in this regard on account of its lactic acid content.)

The content of tubes was free from aerobes (except in one case), microörganisms growing on nutritive agar.

The research did not serve to indicate the best types of tooth pastes.

If we consider that a tooth paste serves for mechanical cleaning, covering of bad mouth odors and evoking a sensation of freshness in the mouth, this they all do.

A number of them owing to their composition have also some therapeutic significance.

—*Transl., Author's conclusions H. A. R.*

163—Entin, D. A. (Leningrad): **Zur Frage der Pathogenese der marginalen Paradentitiden.** On the question of the pathogenesis of marginal paradentitis, in: D. Mschr. f. Z., xlviii: 656-67. Apr. 15, 1930. Abs. Z. Stomat., xxix (3): 329. Mar., 1931.

The aim of this study is first to emphasize the significance of the dietetic factors and the measures which tend to heighten the resistance of the organism as well as to improve trophic processes as a basis for rational prophylaxis and also, perhaps the therapy of incipient forms of disease; second, to study the physiology of the cells and tissues concerned in the pathogenesis of different forms of paradentitis.

While engaged in research on 1) the influence of lowering the local acidosis of the tissues of the paradentium; 2) increase in the number of leucocytes and the subsequent leucolysis; 3) the heightening of the arterial hyperemia of the gingival tissue favoring the course of the initial form of paradentitis, the author verified the corresponding chemotherapy on four respective patients. The results were so encouraging that Entin hopes, through further detailed study and use of this method of treatment on a sufficient mass of material with observations extending over a long space of time, and through experimental work devoted to the confirmation of the effects of this therapy, to fill out the gaps in this preliminary communication. Entin quotes Hay (Wm. Howard, in *Aiderer* vi(7-10), 1928. "Oral evidences of acidosis.") who on the basis of 37 years' medical and sanatorium work practically makes a categorical claim that alveolar pyorrhea can be cured by diet alone without any kind of local treatment whatever. To the author this speaks favorably for the importance of regulation of the acid-alkali-equilibrium of the organism for the physiopathology of the paradentium.

—*Transl.*

164—Erva, Dr. F. (Finland): **Alveolari pyorreasta ja sen troidosta. Ueber die Pyorrhea Alveolaris und ihre Therapie.** On pyorrhea alveolaris and its treatment, in: Suomen hammaslääkäriseuran toimituksia, xliii: 31-42. 1931. Abs. Z. Rdsch, xl(37): 1662-3. 1931.

A brief review of the many theories as to the etiology of pyorrhea alveolaris, the local character of the disease and the share that calculus, plays in it. This is based on the studies of Söderlund and Naeslund on calculus formation. In conclusion the author advances the notion that pyorrhea is possibly a primary actinomycosis.

He advocates the radical operation of Widmann-Neumann as quickest and safest; and as after treatment he recommends local roentgenization and use of potass. iodid. internally.

—*Transl., H. A. R.*

165—Fieschi, Prof. ————: **Les rayons ultra-violets et infra-rouges en odonto-stomatologie.** Ultra-violet and infra-red rays in odontostomatology, in: La Sem. Dent., xiii(4): 467-481. Apr. 26; 533-540. May 10, 1931.

(1) Actinotherapy (natural
(artificial
(2) Photothermotherapy
(3) methods of application and therapeutic action.

. . . "This tenacious disease, pyorrhea alveolaris, has caused much ink to flow in conflicting theories." The author declares that in all the cases treated by the method under discussion, in none have such satisfying results been obtained as by the combined method described in this article.

After examination a culture of the pus is taken. The teeth are all then cleaned up. Next, intra- and extra-buccal radiographs are taken and all defects of articulation carefully noted. Treatment is then begun at once.

(1) Bacteriolytic,—using "Skapyor," a liquid vaccine.

(2) Compensatory biologic,—using irradiations.

The steps taken are as follows:—

a. Scaling and shaving roots

b. Instillation of "Skapyor" into gingivae

c. Ultra-violet irradiation

The first sitting lasts for five minutes at a distance of 40 cm., the second for five minutes at 30 cm.; the third lasts 10 minutes, over the entire face, the fourth as given for five minutes, covering the entire mouth; the fifth for 10 minutes over the entire face at 30 cm. distance; and the sixth for 10 minutes over the whole mouth. A pause in the treatment then ensues for some days.

("Skapyor"—a proprietary article).

—*Transl., H. A. R.*

166—Filderman, Jaques: **Le traitement de la pyorrhée eon de l'alvéolyse par le Stovarsol.** The treatment of pyorrhea by Stovarsol, in: Rev. Odont., lii: 241. 1931.

The author describes the composition of Stovarsol, an arsenical preparation with parasiticidal properties which is feebly toxic and non-irritating to the digestive tract. It is freely eliminated from the urine without affecting the kidneys but should be carefully administered because it may produce liver and kidney lesions in susceptible individuals. Local applications in the treatment of Vincent's infection and ulcero-membranous stomatitis give satisfactory results.

Dr. Béal in 1924 reported the internal use of tablets containing the drug in periodontal treatment but Filderman feels that its activity is diminished before it reaches the periodontal pockets and advises topical applications instead. He divides the treatment process into three parts, namely, by the physician, dentist and patient. The first should assume treatment of the general condition; the second should remove calculary deposits, correct traumatic occlusion and administer local antiseptics.

The patient's share consists of the use of the toothbrush twice a day. In the morning a simple brushing with an antispirillary dentifrice; in the evening, without any dentifrice to avoid attrition at the cervix of the teeth and subsequent caries development. Massage of the gingivae is also advised. Local treatment by the dentist consists of spreading a tablet of Stovarsol over the gingivae as it becomes pasty, ten days per month. The position of the tablet is changed every evening and applied to the most affected areas. This process is followed for twenty days, stopped and begun again later. During the period in which it is not applied, an antispirillary dentifrice is used every evening.

Filderman feels that Stovarsol does not solve the problem of periodontal treatment but it affords the patient an opportunity to assist in the disinfection of his mouth.

—*B. T.*

167—Franken, Sigmund W. A., D. D. S.: **Treatment of sensitive cervices of teeth,** in: J. Am. Dent. A., xviii(1): 156-163. Jan., 1931.

This condition is regarded by the author as a bugbear of dental practice, being one of the most difficult to treat with success. This paper does not undertake to prove that it is due to either mineral starvation or avitaminosis, or to both; but is intended to report clinical results gained by using this hypothesis as a therapeutic indicator. Two types of cervical sensitiveness are differentiated by the author; an idiopathic or better, metabolic type, and other types of known etiology.

Children's teeth do not show this sensitiveness so markedly, but develop white, crescent shaped areas at the tooth necks, which may be controlled by use of cod liver oil with increased intake of milk.

The treatment of sensitiveness of the teeth of metabolic origin is the administration of calcium gluconate three times daily with a diet rich in vitamin A; raw greens, fresh vegetables minimum cooked and served with their juices; egg yolks, milk, cheese, etc. When the sensitiveness has subsided, the calcium may be stopped, but the patient is advised to continue the vitamin A diet.

For immediate temporary relief, the author dries and isolates the teeth, if anterior, with cotton rolls and applies a minute amount of pure formaldehyde, after which careful rinsing is needed. Zinc chloride may also be used, perhaps more safely. For sensitiveness in pos-

terior teeth, silver nitrate has been found of value.

—*H. A. R.*

168—Frohman, B. S., M. D.: **The application of psychotherapy to dental problems,** in: D. Cosmos, lxxiii(11). Nov., 1931.

The author believes that pyorrhea should, in many instances, be considered as a symptom, rather than a primary disease and he endeavors to encourage closer coöperation between dentists and physicians in order to ascertain cause.

Several theories as to cause are set forth, viz: 1. Mechanical theory—constant excessive occlusal stress, with the resultant alveolar absorption; 2. Bacteriological; 3. Improper diet and lack of, or unbalance, in the vitamin content; 4. Systemic theory—such as gastro-intestinal disturbances, focal infection and cardio-vascular disease; 5. Poor dentistry—removal of one or more teeth.

Frohman deals mainly with the mechanical theory. The grinding and gnashing of teeth during daytime, known as Occlusal Neurosis and as Bruxism, when occurring during sleep. The former may be purely a habit due to some emotional state or an effort to get relief from dental discomfort.

Bruxism is to be suspected (1) when teeth are worn more than is normal for age of the patient, (2) when the complaint is sore teeth or aching jaws in morning, (3) when restorations are unaccountably broken, (4) in all cases of alveolar absorption.

In a case report, mention is made of a woman, who upon being told that unless she would stop grinding her teeth, she would lose them, was pressing her teeth together when asleep, the thought predominating that they were coming out, and found herself during the day, pressing her teeth with her fingers, always with the apparition of extractions and being toothless. This case was completely cured by psychotherapy.

In several other case reports, the author describes the neurotic basis underlying the grinding and placing of excessive stresses on the teeth with a resultant pyorrhea, using psychoanalysis as the diagnostic factor, and psychotherapy in conjunction with the surgical treatment, in successfully combating the disease. He maintains that when a neurosis is demonstrable, a modified psychoanalytical technique is worthy of a fair trial.

—*R. S. T.*

169—Furniss, Austin, L. R. C. P., L. R. C. S., L. D. S. (London): **The uses of ultra-violet radiation in dental disease,** in: Brit. Dent. J., lii(1), (8): 255-260. Mar. 2, 1931.

In the opinion of this author, the teeth and the osseous system are closely related, and the stimulation exerted by ultra-violet radiation on calcium metabolism is of great value in dental disease.

In discussing the various types of lamps, dosage, etc., the author describes the technic of using aniline dyes; and mentions that in the treatment of the more septic types of gingivitis and pyorrhea the ultra-violet light may be used to produce electro-desposition of silver from a silver solution, with a detailed description of this method. In treating *septic* mouth conditions, especially pyorrhea, the dosage should be stronger,—the idea being to raise the hemo-bactericidal power of the blood.

Gingivitis. "The ultra-violet rays have a considerable curative effect in these cases. After irradiation the gums become less tender, excessive salivation subsides, the breath becomes less offensive and mastication and deglutition cause less pain. The cause must, whenever possible, be removed before irradiation is commenced. Traumatic, mechanical and medicinal causes can be easily and quickly removed but in the case of constitutional disease it is a different matter. Marginal gingivitis occurring in adolescents, a condition which may easily develop into chronic general periodontitis, responds excellently to ultra-violet ray treatment . . . "

Vincent's Angina. "Ultra-violet radiation has proved itself to be a very valuable remedy in these cases, its multiple effects all coming into play."

Periodontitis. The author classifies the types of inflammation as follows: 1. acute local; 2. chronic local; 3. general suppurative cervical (pyorrhea alveolaris); and 4. general.

(1) Acute local, usually ending in acute alveolar abscess. After incision, irradiation is used, which may also be used early.

(2) Chronic local. This type may com-

mence at the gingival margin or at the root apex, and be suppurative or not. Good results may be obtained by irradiation especially in young people.

(3) General suppurative cervical pyorrhea. After X-raying, scaling, brushing, draining, and cutting away of unhealthy tags of gum, ultra-violet radiation may be employed. In this type it is essential to combine the local treatment with general irradiation. In early stages when the delicate periodontal membrane is only slightly affected and the pockets are still shallow, good results may be expected.

While there may be as the author says in conclusion "a great deal of hope," in this method of treatment, very little seems to have been gained by this method in advance of the countless other methods of treatment used in this affection.

—*H. A. R.*

170—Garvin, M. H., D. D. S.: **Treatment of periodontoclasia,** in: D. Survey, pp. 38-39. Sept., 1931.

The author believes that dentists should serve as many as possible without involving too much time and expense. The dentist should relieve any pain and also examine the mouth and probe the depth of pockets at the first visit. This is followed later by a more thorough examination including X-Ray at which time a chart is made showing what required work is needed. After the patient has been given the treatment necessary for placing the mouth in a healthy condition such as extractions and necessary bridge work and correcting traumatic occlusion, the treatment of the periclasia pockets should be administered.

The type of treatment for periodontoclasia lesions, is selected according to the time and expense required. If there is plenty of time, the conservative method is used, such as sealing, cemental and periodontal curettage and sealing of the pocket, followed by definite instructions for home care. The radical procedure for elimination of the pockets is much simpler and requires less time as one-third of the gingival tissue can be removed to the depth of the pockets at one time, therefore finishing the mouth in only a few sittings. Following any operative procedure, the patient should be instructed as to home care and advised to have regular prophylactic treatment at certain intervals for which time the dentist can notify the patient by either mail or telephone.

—*J. W.*

171—Garvin, M. H., D. D. S. (Winnipeg, Canada): **Operative technic for the general practitioner in the treatment of periodontoclasia,** in: J. Am. Dent. A., xviii. Jan., 1931.

The problem is considered by the author from an economic standpoint, and decides that the people must have the benefits of specialization at a minimum cost.

The above conclusion is reached after considering that eighty-six percent of all incomes in the United States are under two thousand dollars. These families have other problems besides dental ones—leaving a scant fund for dental and medical care, particularly preventive service.

The reverse side of the problem cannot be overlooked. High costs in time and money in procuring an education cannot be reduced but overhead costs can be reduced with the able assistance of hygienists, trained assistants and mechanics, thereby making it possible to render dental service at a fee within reach of a greater percent of the people.

A high degree of efficiency and convenient office arrangement is necessary. Twenty minutes is allotted for the first appointment. Roentgenograms are taken, if indicated, and while being developed, vitality tests are made and prophylactic treatments are given by the hygienist.

As the object of this paper is the consideration of periodontal service for the average patient—if certain conditions are considered unfavorable for conservative treatment, a more radical treatment is advised. Either the modified flap or the complete excision method is resorted to.

Whatever type of treatment is adopted, the patient is impressed with the idea that one hundred percent coöperation is necessary, if satisfactory results are to be obtained. The education of the patient in home care of the mouth is essential.

There is also a need to educate the profession along lines that are economically and ethically sound. This will make possible better work at less fees and will bring the field of dentistry within reach of a greater number of our average citizens.

—*W. H. S.*

172—Gaubert, Pierre: **Le traitement vaccinal antipyorrhéique.** Antipyorrhetic treatment with vaccines, in: L'Odont., lxviii(3): 174-189. Mar., 1930.

The author refers chiefly to the familiar Goldenberg method in treatment with Inava B vaccine. In treatment with novarsenobenzol, he uses the preparation "Billon" in glycerine solution applied to the gum with cotton rolls and left in place 15 to 20 minutes.

—Transl., H. A. R.

173—Ghinst, Van der, Dr. J.: **Les Étrusque connaisseient ils la pyorrhea expulsive et la méthode de traitement prothétique?** Was pyorrhea and its treatment known among the Etruscans? in: Revue belge de Stomat., xviii: 112. Sept., 1931.

"Comparing two Etruscan mandibles preserved in the Archeological Museum at Florence, the author believes without doubt that these are specimens of treatment for pyorrhea. A thin band of gold encircles the lower incisors (which are affected with pyorrhea) back and front. In both there are signs of considerable attrition suggesting that they belonged to persons of advanced age; there are no signs of caries, and therefore the bands in the one case ligatured to the teeth were meant as supports to loose teeth and not for prosthesis."

—Copy.

174—Gnau, Heinrich (Univ. Marburg.): **Vergleiche therapeutischer Massnahmen bei Erkrankungen des Parodontiums; unter besonderer Berücksichtigung der sogenannten "Dunlopmethode."** Comparison of therapeutic measures in diseases of the paradontium; with special reference to the so-called "Dunlop method." Inaug.

—Diss. 31 pp. 1931.

—Title a sufficient abstract, H. J. L.

175—Gonter, Otto: **Ultra-violett-Bestrahlung zur Therapie und Prophylaxe von Zahnfleischerkrankungen und Paradentose.** Ultra-violet irradiation in the treatment and prophylaxis of gingival diseases and paradentosis, in: Zahnä. Rdsch., xl(47): 2107. 1931.

The author's use of the ultra-violet rays differs from that of others in many respects. He uses the small sun lamp (orig., Hanau), without any supplementary apparatus and, in contrast to Sampson, irradiates the gingivae of both jaws at the same time, up to manifestation of marked active hyperemia. The lips and cheeks are held out of the way by an assistant or the patient himself with the teeth closed. With some practice the shading of the gum by the finger is easily avoided. Unfortunately there is no holder on the market to simplify this tiresome arrangement in long treatments. Beginning with two minutes according to the sensitiveness of the patient he increases the time from one to ten or twelve minutes at a distance of 40 cm., three times a week in general in a series of ten sittings. On free days and between the series (10-14 days) he has the patient massage the gingivae with "Stomatin," besides using a spray ("Jodetta").

The author discusses the therapy of gingival diseases under the following headings:

1. Bloodless treatment of paradentosis. In a short time strengthening of the capillary system plainly recognizable; the patient feels an increased firmness of the entire masticatory mechanism; teeth already loose become firm and can be used without difficulty. The preliminary condition is the removal of tartar.

2. Before surgical treatment of paradentosis. The object is to stimulate the capillary system for furthering the nutrition of the organs.

3. After surgical treatment. This is designed to maintain good circulation for aiding the healing of wounds.

4. Prophylaxis. Here the aim is to stimulate poorly developed gingivae (loose or livid tissue) especially in patients in whom a tendency to gingival disease or paradentosis is suspected. This prophylaxis may be commenced at a very early age.

Cases in which general disease is the cause of gingival affections or of paradentosis, should naturally be referred to an internist.

Above all, it should be clear that the human masticatory mechanism is in a progressive state of degeneration. The danger of recurrences is therefore especially great. After cure, author advises his patients to use massage, to maintain a good circulation.

—Transl., H. A. R.

176—Goodfriend, S. H., D. D. S.: **Pyorrhea and its treatment.** The elimination of pyorrhea and destroying infection with the aid of medicinal composition or pack, in: A. Dent. Surg., li(12): 313-317. Dec., 1931.

The author uses a pack containing zinc oxide, oil of cloves and balsam of Peru in practically every case of oral infection. He packs the tissue away in cases of gingivitis before any scaling, claiming it gives him a clearer field visually. He also uses it after surgical treatment of dental periclasia as well as in acute Vincent's infections. He recommends that in the latter case the ulcers be swabbed with peroxide first and then ten percent silver nitrate before applying pack. He states fifty percent trichloracetic acid may be used instead of silver nitrate. He says there is no limit to number of times pack may be used, to continue until case is cured, meantime not overlooking systemic factors contributing to the disease, nor local factors such as faulty restorations and traumatic occlusion.

—*W. Y.*

177—Greve, Dr. H. (Erlangen, Ger.): **Pyorrhea alveolaris,** (Ital. Dent. Congress, Venice. Sept., 1930), Extr., in: D. Digest, xxxvii(3): 181-182. Mar., 1931.

Under pyorrhea were originally described those teeth which became loosened through the disappearance of the alveolus and the formation of pockets containing pus. At present this disease is known in Germany as paradentitis. The inflammation about the tooth is only secondary and is but an accompanying symptom. The cause of pyorrhea is still shrouded in mystery. Derangement of internal secretion has been suggested. The only thing definite is the disappearance of the bone about the tooth and the atrophy of the alveolus. The remaining symptoms are of a secondary nature.

The infection present explains the chronic inflammatory condition of the pocket. Spirochete and fusiform bacteria are found in the bottom of the pockets. Both together are recognized as destroyers of tissue. The working of the bacteria in the pockets explains the long duration of the disease.

Two pictures are typical in pyorrheal disease. Disappearance of the alveolus with a great deal of tartar present and little or no pus is one example. The other shows alveolar resorption with practically no tartar, a great amount of pus and loosening of the teeth.

The first form is more frequent probably in 95% of the cases. It is termed atrophy simplex and the second form is atrophy complex. In the course of treatment the pockets should be eliminated by cutting them down to the bony attachment about the teeth. Internal medication has as yet shown no results. In the first type, known as Schmutz Pyorrhea by Gottlieb, removal of all tartar is important. The author believes that the flap operation is of no great help. In fact it may hasten the loss of teeth in the second group of such cases. The elimination of the pocket is the most helpful surgical aid.

—*Copy*

178—Günther, Dr. P. (Bern, Sw.): **"Pyo-Stomin,"** in: Schwz, Mschr. f. Z., xli (2): 157-165. Feb., 1931.

This article is a new preparation for the local treatment of acute and chronic inflammations (1) of the oral mucosa (stomatitis, aphthae, pressure necroses and hypertrophies under crowns or bridges); (2) of the gingiva (acute gingivitis, chronically inflamed easily bleeding, reddish blue gingiva); (3) of the papillae (acute papillitis, necrotic and hypertrophic papillae, inflammatory concomitants in *dentitio difficilis*); and (4) of the alveoli (alveolar pyorrhea). The author describes in detail the "Pyo-Stomin Method" of treatment which he regards as a panacea.

—*Abridged transl., H. A. R.*

179—Haley, Philip S., Ph. D., D. D. S.: **Packing the gingival crevice to eliminate the pyorrhea pocket,** in: D. Cosmos, lxxiii(10): 965-968. Oct., 1931.

The author believes that if there is such a thing as a normal or physiological crevice about the cervices of teeth, it ought to be an uninfected, natural depression, lying between the cemento-enamel junction and the mouth epithelium at the point where the latter turns outward and away from the teeth. He cites the studies by Beck on normal and pathological gingival histology as the basis for medicinal treatment of so-called pyorrhea pockets.

Haley's method involves continuous contact of the medicinal agents with the tissues, obtained by packing the pocket. The drugs which he now makes use of most commonly are phenol liquefactum, N.S.P., copper sulphate, 10 to 15 per cent solution; sulpharsphenamin (1.6 grams dissolved in ½cc.

distilled water and mixed with 30cc. glycerine); chlorin (1 per cent solution); hydrochloric acid (7 per cent solution), followed by borax or sodium bicarbonate; a solution of bismuth sodium tartrate in glycerine, about 1.5 per cent; mixture of tincture of aconite and iodin, 90 parts to 10 parts.

Packs may be made from cotton, "twilled into twills" from one-half inch to two inches in length and thicker in the center than at the ends. They are then partially saturated with the chosen drug, and carried with the cotton pliers to the center of the opening of the pocket. A suitable packer is selected and the twill gently and slowly packed to the bottom of the pocket. The packing is left in place twenty-four hours.

The author says that the essentials necessary in using the method of treatment outlined are an understanding of the proper use of necessary drugs, the cautious use of instruments, a thorough study of the mouth picture and an extended coaching and rehearsal of the patient in home hygiene.

—*D. M.*

180—Heinrich, Dr. Erich: "Die **Bedeutung der Wechselbeziehungen von Körper und Seele für die Aetiologie und Therapie der Paradentose.**" (Dr. Hans Sachs). The importance of interaction of body and mind in the etiology and therapy of paradentosis, in: Zahnä. Rdsch., xl(51): 2265. 1931.

The larger portion of this article is somewhat controversial, but in regard to treatment, the author discusses specific and non-specific treatment.

The latter is the dentist's work; it includes the removal of all exogenous factors, the correction of malocclusion, removal of calculus, thorough cleansing and elimination of pockets. The specific form of treatment consists in mobilization of the entire defensive forces of the organism, constitutional and psychologic, and in arousing the patient's will to recovery.

—*Transl., H. A. R.*

181—Hermann, Franz and Heinz Krey (Frankfurt a. M.): **Die Capillaren der Mundschleimhaut unter dem Einfluss der Syphilisbehandlung.** The capillaries of the oral mucous membrane under the influence of treatment for syphilis, in: Paradentium, iii(3): 106-112. 1931.

1. The earlier capillary microscopic observations by means of the sulphide deposit in the endothelium of dilated capillaries has been replaced and extended by improved technique. With the injection, the capillary stasis increases.

2. The gingival capillaries as well as those of the skin also show the endothelium disturbance going on under the treatment with salvarsan.

3. In the course of antisyphilitic treatments, the interdependence of disturbances of the capillary circulation and the subsequent changes on constitutional conditions is demonstrated.

—*H. A. R.*

182—Hoffman, H. F., D. D. S.: **Influence of orthodontia on the treatment and prevention of periodontal disease,** in: J. Am. Dent. A., xviii(10): 1980-1987. Oct., 1931.

In the following cases orthodontic treatment is indicated in periodontal pathology:

(1) Where there is a thinning or entire absence of the labial alveolar plate when a single tooth is placed labially to the arch. This condition frequently occurs in the mandibular incisors.

(2) Where there is an extreme over-bite of the anterior teeth or where the bicuspids are rotated a quarter turn.

(3) In cases where there is a distal occlusion of the mandible with protrusion of the maxillary anterior teeth, also where lateral incisors are rotated and in some cases where teeth are congenitally absent, and lastly where assistance is rendered in correcting traumatic occlusion.

—*A. C. H.*

183—Humphreys, Karl, D. D. S.: **Elimination of the pyorrhea pocket,** in: Jour. Calif. St. Dent. Assoc., vii(5): 165-6. Sept.-Oct., 1931.

The author believes it is generally conceded that the aim of the periodontist in treating pyorrhea is "to effect as far as possible a return to normal in both soft and osseous tissues". His conception of a healthy mouth is given and the familiar Gottlieb theory discussed. The soundness of this theory being granted, it follows that if treatment results in the restoration of a gingiva as described free from infection, inflammation or me-

chanical traps for food débris, the maximum good has been obtained.

As regards method, scaling may be satisfactory except when the alveolus is involved, since it is unusual to secure obliteration of the bony pockets. The author contends that the surgical method is the ideal one, although he admits that drastic scaling may sometimes accomplish the results desired; but this is at best an uncertain method. He has operated in several hundred cases with less discomfort to the patient and without secondary infections or other post operative complications. He is hence personally convinced of the advantages of the Ward technique with the use of Wondrpak but would be willing to change to other methods if proved superior.

—*H. A. R.*

184—Irwin, V. D., D. D. S.: **Rejuvenation of occlusion and tooth-form function in the treatment of periodontoclasia,** in: J. Minn. State Dent. Assoc. Oct., 1931.

The author explains that the purpose of his article is to outline the "procedure of grinding in an occlusion and remodeling and rejuvenating the teeth to establish proper tooth-form function". At the same time he admits that "the task of balancing an occlusion" is a delicate one the difficulties in each case being such as to "defy complete description for purposes of explanation of procedure." Though the attempt is made to describe this "procedure" it only serves to emphasize the difficulty in both operation and description. This being true, it is doubtful whether "the equilibration of occlusion" will ever become a routine of periodontic practice. It also raises the question: Is it necessary?

—*A. H. M.*

185—Jennen, Friedrich (Cologne): **Die Paradentose, Diagnose und Therapie mit besonderer Berücksichtigung der Proteinkörpertherapie.** Paradentosis: diagnosis and therapy with special reference to colloid ("protein body") therapy. Inaug.-Diss. 24 pp. 1931.

(*"Inaug.-Dissertations" not available as a rule*)—*H. A. R.*

186—Johnson, Raymond E., D. D. S.: **Gingivectomy in the treatment of suppurative periodontoclasia,** in: J. Am. Dent. A., xviii(8): 1455-58. Aug., 1931.

In this article five questions were given and answered by the essayist.

1. What do you consider successful results in the treatment of suppurative periodontoclasia? Successful results should find teeth firm in their sockets, bleeding should stop, soreness and tenderness should disappear, gingiva should cling so closely to tooth roots, that an instrument can only be inserted a normal distance.

2. Give description of the gingivectomy method of treatment. — Before beginning surgical procedure, thorough prophylactic treatment is given, occlusal trauma, faulty contacts and mechanical irritants are corrected. Patient should have vigorous home care for several weeks to establish good circulation.

If extensive resection is done, clotting and bleeding time are determined. The operation is done under local anesthesias with field made aseptic. All necrotic tissue is removed to the depth of the pocket, only sufficient process is removed to give proper level. After completion of operation, areas are covered with Wondrpak or pack used by U. S. Army Dental Corps. This is mixed like cement and left on area about ten days. Operated areas are irrigated frequently with mild antiseptic until brush can be used.

3. Give reasons for your preference of the gingivectomy method over conservative method and the flap operation. Gingivectomy is not preferred over the conservative, except where a wall of tissue, particularly, on the posterior teeth prevents proper cleansing or when failure has been experienced by other methods. The advantage of flap operation is based on aesthetic reasons and less traumatizing of tissues.

4. State all of the disadvantages of your preferred method as compared with the others and give complete list of its contra-indications.

Gingivectomy was *not* the preferred method—Disadvantages, (1) aesthetic reasons, (2) sacrifice of alveolar bone to make good contour. (3) Removes any possibility of reattachment. (4) Spectacular nature of operation, makes it attractive to some operators. (5) Postoperative discomfort and patient's apprehension of any surgical procedure. Contra-indications, (1) Badly impaired health of patient, (2) Hemophilia, (3) Lack of coöperation of patient, (4)

Esthetics and impending loss of remaining teeth, the retention of which will result in poorer ridges for dentures.

5. What constitutes the conditions of suppurative periodontoclasia with (a) good prognosis, (b) poor prognosis, (c) negative prognosis? Good prognosis based on privileges of etiology—good health—high state of vitality, investing tissues and entire organism—complete coöperation of patient, vital teeth, functional occlusion, freedom of bifurcations of posterior teeth from involvement.

Negative prognosis—lack of knowledge of etiology, poor health and lack of coöperation, lack of occlusion or traumatic occlusion, no approximal support, firm adjacent teeth, teeth compelled to carry bridges or clasps, pulpless teeth. Involvement of bifurcations with a small jaw or slender, short-rooted teeth.

—*W. H. S.*

187—Joyeux, Dr. A. (Chartres): **Traitement de la pyorrhée par pulverisations et ionophorèse.** Treatment of pyorrhea by pulverization and ionophoresis, in: La Sem. Dent., xiii(2): 181-191. Feb., 1931.

The author discusses briefly the etiology of pyorrhea: "in the majority of cases, pyorrhea alveolaris is the result of infection of the fibro-mucous ring encircling the necks of the teeth. This infection is almost always evoked by the microbes of suppuration (staphylo- and streptococci) which we meet with in all bacteriologic cultures of these regions; and these microbes emit their toxins, well sheltered as they are at the bottom of the layers of tartar covering the base of the teeth. It has been sufficiently demonstrated that all the efforts of those who have sought and those who still seek to combat this disease are based upon the removal of this tartar."

The author's technique is fully described by the aid of drawings and carefully detailed explanations as to its application and results. He is absolutely convinced that the practitioner who tries this method will have only cause to congratulate himself on having followed the author's advice.

—*Transl., H. A. R.*

188—Junod, André (Phar.-Chim., Geneva): **Considérations sur l'oxyacétylaminophénylarsinate de soude dans le traitement quotidien de la pyorrhée.** Oxyacetylaminophenylarsenate of soda in the daily treatment of pyorrhea, in: Sem. Dent., xiii(12): 1464-65. Dec. 6, 1931.

Recent clinical results have proved the value of this arsenical in the treatment of buccal spirochetosis. Its stability, arsenic content (27.2%) absence of caustic effect on gingival tissues give it certain advantages over those arsenicals which oxidize rapidly in air, or produce secondary caustic effects; it can be preserved, has remarkable spirillicide power and can be safely administered by the practitioner and used daily by the patient. By some practicians, it is used in glycerin solution (1/10) for instillations into pyorrheal pockets with excellent results. It has been incorporated into a dentifrice for daily use by patient. ("Mexyl").

—*Transl., H. A. R.*

189—Ketcham, D. D. S.: **Indications for orthodontic treatment in periodontal cases,** in: J. Am. Dent. A., xviii(10): 1980-1987. Oct., 1931.

Orthodontic treatment is indicated: in cases where traumatic occlusion cannot be corrected by the periodontist; in cases where there is crowding and overlapping of the teeth making it almost impossible for the patient to properly practice oral hygiene; where there is dysfunction caused by the protrusion of the upper anterior teeth or posterior position of the mandible or both.

Orthodontic treatment is *contra-indicated* where more than half of the supporting alveolar structure is missing.

—*A. C. H.*

190—Kirkland, Olin, D. D. S.: **The suppurative periodontal pus pocket; its treatment by the modified flap operation,** in: J. Am. Dent. A., xviii(8): 1462-1470. Aug., 1931.

The author's first step in surgical procedure is a general survey of the patient's physical condition. The field of operation should be closely observed from roentgenograms and by local examination. If the patient's health indicates the services of an internist, this procedure is carried out and a satisfactory report from him is obtained.

The heavy deposits are then removed, teeth polished and the gingivae stimulated until tissues are reasonably healthy.

This step not only clears up the infection, but also indicates in a measure the patient's ability to react to surgical treatment. After occlusal trauma has been corrected and the intensive infection and inflammation reduced the mouth is ready for surgical treatment.

Under a local anethesia, a small thin-bladed knife is inserted vertically into the gingival crevice to the depth of the pocket, where an incision is made either in a mesial or distal direction through the gingival papilla, so that one half of it may be retracted labially and the other half lingually. The tissues are retracted, giving free access for the curets also providing a view of the field of operation.

With the spoon-shaped curets, the infected tooth roots are easily curetted, and, at the same time, the ragged spicules of bone in the alveolus are removed, leaving a clean root surface and smooth healthy bone. The flap is trimmed and if granulation tissue is present, it is removed.

The wound is irrigated with (Dakin's) surgical solution of chlorinated soda and closed by one suture. After the teeth and gums are dried thoroughly, a wax dressing composed of one part of sticky wax and three parts beeswax is painted over the area of operation. This dressing should remain from three to five days and if the wound is sufficiently healed the suture is removed. The mouth is cleansed daily with the sodium chloride solution.

The modified flap operation is less radical than the complete open-view radical plan. The extensive retraction of tissue necessary in this method must necessarily cause extensive trauma and postoperative sequelae.

The modified flap operation is preferable because it does not require the sacrifice of any oral or gingival tissue and consequently there is little change in the appearance of the anterior teeth and gums.

This operation is also favorable to bone regeneration. The essayist regards the conservative method of treatment as requiring greater skill than any of the other methods that are practiced as it must be accomplished entirely through the sense of touch. He compares it to the removal of the contents of a room through the key hole, and asks the question, why not open the door, and gain free access to the field of infection, so that it may be easily and completely eradicated.

The advantage of the modified flap operation over the gingival curettage are given as free and easy access afforded to the field of operation with but slight injury to the gingiva.

It is contra-indicated in cases, where pus pockets are not formed; in such cases anesthesia is unnecessary, and the author suggests subgingival curettage. In cases of Vincent's infection operative procedure should be postponed until the acute stages are passed. More satisfactory results are achieved in young patients.

Infected pulpless teeth, molars with bone destruction extending to the bifurcation, single rooted teeth where more than three-fourths of the bone support has been lost, may be considered to have a negative prognosis.

The author's experience with this type of treatment has extended over a period of twelve years with results that have been satisfactory to both patient and operator. Most of these patients have been kept under observation throughout this period of time. Efficient home care was maintained and results have remained permanent. By reason of its conservative nature this type of surgery is preferred when in the judgment of the operator surgical treatment is necessary.

—*W. H. S.*

191—Kraus, (Stuttgart): **Beitrag zur Therapie bei Paradentose und chronisher Mundschleimhauterkrankungen unter besonderer Berücksichtigung der Heilquellen.** Contribution to therapy in paradentosis and chronic diseases of the oral mucous membrane with special reference to mineral springs, in: Deutsche Z. Wchnschr., xxxiv-(1): 10-17. 1931. Zeitschr. f. Stomat., xxix(11): 1312. 1931.

The author treats the use of various modes of therapy and diets quite briefly and advocates at length courses of treatment at mineral springs especially those in Germany.

—*H. A. R.*

192—Landsberger, Dr. Paul: **Eine neue Jodkombination bei Behandlung von Stomatitis und Paradentose.** A new iodine combination in stomatitis and paradentosis, in: Z. Rdsch., xl(9): 378-379. Mar. 1, 1931.

In this article two new preparations are discussed "Laryngosan" and "Anginasin" as "a safe and sure iodine treatment". The dosage of Laryngosan is 1-7 drops twice daily (before breakfast and at bedtime). Anginasin is used in topical application t.i.d. The author uses both at once.

—*H. A. R.*

193—Lebedinsky, G. G., (Paris): (French title missing.): **Eine neue Behandlungsmethode der Pyorrhoe.** A new method of treatment in pyorrhea, in: La Sem. Dent. Revista Odont., Oct., 1931, p. 665. Abs. Korresp.—Bl. f. Zahnä. lv(10): 427. Oct., 1931.

Pyorrhea is a social disease. It attacks the individual at the age when all the forces of the organism are already at a low ebb. This insufficiency of the organism is called forth by the intensively toxic activity of the pyorrhea and is strong enough to involve the general health. The author proposes a really noteworthy scheme of treatment.

A. Physical and mechanical means of treatment.:

1. Radical cleansing of the alveolo-dental region.
2. Subgingival introduction of calculus solvent substances.
3. Restoration of normal articulation and treatment of tooth loosening by ligatures, etc.
4. Physical means, as, ultra-violet rays, high frequency, gingival massage, etc.

B. Chemotherapeutic means:

1. Cauterization
2. Antiseptics, too weak to attack the enamel.

C. Biotherapeutic means:

1. Use of vaccines.

The author details at length his very successful method which is also saving of expense and time.

—*Transl. Abs., H. A. R.*

194—Lebedinsky, G. G., (Sch. of Dental Surgery, Paris.): **Une nouvelle stomatite toxiseptique: la gingivo-stomatite de l'intoxication par la santonine.** A new toxiseptic stomatitis; gingivo-stomatitis due to intoxication by santonine, in: Sem. Dent., xiii: 1217-1220. 1931.

Description of a case: woman, slight yellow discoloration at the gingival border, interdental papillae bleeding easily, slight recession; the yellow color not that of jaundice, but the patient saw everything colored yellow; two months pregnant. It was found that the patient had been taking *santonine* for the removal of ascarides from the intestine, but had neglected to follow directions given for purgation thereafter.

—*Transl., H. A. R.*

195—Leonard, Harold J., D.D. S., B. A.: **The conservative treatment of periodontoclasia,** in: J. Am. Dent. A., xviii(8): 1449-1455. Aug., 1931.

The essayist regards treatment successful when the gingivae become hard, firm and pink and not hypersensitive. Subgingival pockets no longer extend below normal depth. Teeth are firm and stable without tenderness and bone has been rebuilt as far as pericementum permits. There should be no foci of inflammation or infection remaining about teeth and masticating mechanism has been rebuilt so that no traumatic stresses on teeth will recur.

Treatment of periodontoclasia is not only a matter of instrumentation, but knowledge of all the factors in disease or in injury of the periodontal tissues, correction of the conditions and stimulating the tissue cells to the most healthful reaction of which they are capable. Treatment is empirical unless the three types of the causes, bacterial, traumatic and cell nutritional are kept in mind and corrected.

The author's interpretation of conservative treatment is one that involves the least possible injury to the periodontal tissues consistent with the elimination of the causative factors. This is accomplished by subgingival curettage of the periodontal pockets; removal of mechanical irritants and correction of the systemic disabilities; attention to diet; personal care designed to maintain a high standard of mouth hygiene and stimulate periodontal circulation.

The result of such treatment depends largely on the skill with which subgingival curettage is practiced, together with the use of the proper type of instrument. This consists in removing from the root surfaces subgingival calculus and all rough areas on the tooth surfaces, such as, filling margins, enamel roughness and cemental spurs, also dead pericementum with as little injury to cementum as is consistent with thoroughness in the oper-

ation. This is followed by the correction of mechanical irritants, food impactions and occlusal trauma.

Systemic treatment has three main objectives: (1) the physiologically clean mouth, (2) proper nutrition of the periodontal tissue cells, and (3) stimulation of the cementum and bone building activity in these tissues. Assistance by systemic means is just in its infancy. In the future we may expect aid from this source to rebuild normal periodontal tissue. It may be possible with the aid of vitamin concentrates, calcium additions and endocrine extracts to stimulate cementoblastic and osteoblastic activity to bring about restoration of destroyed tissue. The comparison is made of the conservative method of treatment and that of gum resection.

The objections to the latter treatment as outlined by Leonard are, that it is unnecessarily disfiguring, increases sensitiveness of exposed surfaces and adds to the difficulty of keeping the teeth clean; it also prevents the formation of new bone. The conservative method of treatment is based on the experiment that the tissue overlying a pocket can ordinarily be made healthy and kept so, thus, removal becomes unnecessary. There is histologic as well as clinical evidence that attachments of the overlying tissue does occur and that such reattached tissue acts as a scaffolding or matrix for alveolar process to build into. As a general rule, a healthy gingivae and periodontium follow a proper conservative treatment. It is unreasonable to expect definite restoration of pericementum and supporting bone to cementum in all cases, as this depends upon (1) Perfection with which calculus, débris and necrotic cementum are removed (2) Elimination of traumatic conditions (3) Stimulation by massage and tooth function in circulation of the gingiva, remaining pericementum and remaining alveolar bone, by which residual bacteria are eliminated, and connective tissue fibres are tightened to eliminate spaces for accumulation of débris and stagnating fluids.

It should not be understood from this article that teeth affected by periodontoclasia must first be treated by the conservative method, before it can be determined whether further surgical interference is necessary. The experienced periodontist will establish certain guides by which he can estimate whether conservative treatment is or is not indicated for any affected tooth. These guides are as follows: (1). How badly is the tooth involved? (2). What types of periodontal structure and tissue reaction are to be dealt with? (3). Can the causes of the disease be eliminated? (4). Is the tooth worth saving?

This article merits reading and study, as the author has covered this subject very fully and in an excellent manner.

—*W. H. S.*

196—Merritt, Arthur H., D. D. S.: The responsibility of the family dentist in the prevention and treatment of periodontal diseases, in: D. Outlook, xviii: 147-151. Apr., 1931.

The author deprecates the fact that dentistry has devoted itself so intensively to the art of dentistry and the mechanical treatment of defects of the teeth that it has done almost nothing toward the fundamental prevention of the diseases in its field. He particularly deplores the attitude on the part of dentists that there is no cure for pyorrhea; or worse yet, that he relies so often on worthless nostrums. The responsibility for maintaining the health of the teeth and their supporting tissues rests on the family dentist, and the public is fast learning to hold him accountable for failures. In the periodontal field he can prepare himself to meet his obligations by extensive reading and by careful attention to early symptoms. He must understand the causes of periodontal disease whether systemic, mechanical, due to bacteria, to oral sepsis or lowered tissue resistance. Systemic causes must be handled in coöperation with a physician except as far as giving general hygienic dietary advice. Fortunately, most cases are largely due to local factors and can properly be treated by dental means. Preventive treatment is directed toward building up local resistance and establishing a high standard of mouth hygiene, a matter of accurate cleansing and gum massage.

Routine careful exploration of the gingival tissues and periodic radiographic examinations are recommended for all adult patients. The family dentist should be competent to treat beginning periodontal disease as shown by gingival symptoms and even some pocket formation. Treatment consists in the complete removal of calculary deposits, polishing of the teeth and insistence on rigorous home dental cleansing and gum massage. In advanced cases it is usually preferable to refer the case to a periodontist for treatment and follow up. It is often more satisfactory to

put the full responsibility on the periodontist than for the dentist to attempt the follow up prophylactic care. The periodontist on his part should see to it that the patient is referred back to the family dentist for all other dental care.

—*H. J. L.*

197—Merritt, Arthur H., D. D. S.: **The general practitioner's greatest need in periodontia.** Discussion of article under same title by Benjamin Tishler, D. M. D., in: D. Outlook. Jan., 1931. Abs. from California St. Med. Assoc. J.

Dr. Tishler introduces his article by saying "The practice of dentistry, like that of medicine, has many unsolved problems of varying degrees of importance. Two of these, the control of caries and periodontoclasia are outstanding because they are the basic lesions from which all others develop."

The profession has given far more thought to caries than to periodontoclasia but the author predicts that an increasing public interest will demand more attention to periodontal lesions from the profession. Many dentists are frankly uninterested in periodontal problems. The two basic factors involved in treatment are recognition and elimination. The author states that "among the contributing causes of periodontoclasia is an unfamiliarity with early gingival and other symptoms present in young adults", and points out that the periodontium may be considerably involved with very little visible evidence; exploration for pocket formation or detachment of the periodontal membrane should be a part of routine examination. In conclusion he states that the purpose of his paper is "to emphasize a better diagnostic knowledge of lesions as the greatest need of the general practitioner in Periodontia."

In his discussion of the above article Dr. Merritt stresses the need for a wider knowledge of and interest in Periodontia on the part of the general practitioner. "What is needed in this unfortunate situation is not more knowledge, important though that may be, but the application to daily practice by the family dentist of the knowledge already available."

He heartily seconds the appeal of Dr. Tishler for better and more thorough examinations. The abstractor favors constant reiteration of the subject since there are far too many teeth lost from periodontoclasia due to neglect or indifference on the part of the profession.

—*Abstract by Dr. Robt. M. Leggett. (Abbreviated, H. A. R.)*

198—Metalnikov, Prof. ——— and Dr. Ermolaiev: **Étude expérimentale de l'action du Skapyor dans la pyorrhée et les autres infections.** Experimental study of the action of Skapyor in pyorrhea and the other infections, in: Sem. Dent., xiii(10): 1227-37. Oct. 18, 1931.

Skapyor consists of two substances: iodophenate of iodized potassium, and the oxyacetylaminophenylarsenate of sodium (containing radium).

After a review of the symptomatology of pyorrhea and a bacteriologic study of pyorrheal pus, blood counts, etc., cases are cited with favorable results. The author studied the toxicity of *Skapyor* on the animal organism (guinea-pigs) and his experiments are described in detail.

Skapyor both in animals and man seems to evoke a reaction not only local but general, whether it is introduced into the pyorrheic gingiva, the peritoneum or under the skin of an infected animal. Its action is apparent not only on the gingiva under treatment but also on the opposite side of the jaw. These facts cannot be explained by its antiseptic properties. This product is clearly capable of intensifying the defense reactions of the organism. The author believes that this substance, introduced into the gingival pockets where there is a great quantity of microbes, forms there a kind of autovaccine, which absorbed into the blood creates a state of immunity.

These studies are being carried further.

—*Transl., H. A. R.*

199—Morelli, Gusztav. (Budapest): **Neuere Richtingen der Alveolarpyorrhoe-Behandlung.** New objectives for the treatment of pyorrhea alveolaris, in: Fogorv. Szemle, xxiii: 417-27. 1930. La Stomat. (Rome), xxix(2): 97. 1931. Abs. Rev. de Stomat., xxxiii(3): 175-177. Mar., 1931.

The author proposes to elucidate a plan of treatment based upon scientific publications and his own clinical experience, which has often given him the most satisfactory results.

New conceptions. The author unites all the tissues found about the neck of the tooth under the collective term "paradenzio."

From the standpoint of embryology and anatomy the tooth and its paradenzio form a terminal organ, with a unity of blood vascular supply and innervation.

He then discusses the familiar theories of Gottlieb at some length. Under the term pyorrhea alveolaris he understands all the diseases of the dental neck; these may be grouped into two classes: 1. that of paradentitis where may be found all affections with symptoms of inflammation; 2. that of paradentosis, all the affections evolving without inflammatory symptoms.

He discusses under etiology the usual groups of constitutional and predisposing causes. He finds the age the most important of the former, which may be reduced to one alone: disturbance of the acid-base equilibrium.

The predisposing causes may be mechanical, chemical or infectious (stomatitis and especially salivary calculus). Among the mechanical troubles he notes specially malocclusions and the nocturnal trismus, little studied, nevertheless constant in pyorrhea.

Symptoms

1. Paradentitis: alterations in the gingiva; gingival pockets; purulent secretions, radicular tartar; bone atrophy, mobility and finally loss of teeth.

2. Paradentosis: absence of inflammation of the gums; no pockets, no purulent secretion. Several forms are recognized by the author: atrophy, diffuse, senile, precox, etc.

Treatment

In paradentitis, treatment can only be individual. Causes must be sought, dietary deficiency, diabetes, nephritis, etc.

(1) removal of tartar and polishing of the teeth; mineral salts; (2) rehabilitation of the mouth, chemical or surgical removal of pockets; (3) struggle against movement of the tooth by diminishing the masticatory surfaces, opposing the nocturnal trismus by superelevation of the articulation; (4) oral hygiene.

In paradentosis, massage and eventually fixation of the teeth constitute the main dependencies of treatment.

—*Transl. of abs., H. A. R.*

200—Moutier, M. François (Paris): **Stomatologie et gastro-entérologie: nécessité et efficacité de leur collaboration dans le-traitement de certaines maladies graves de l'appareil digestif.** Stomatology and gastroenterology; necessity and efficacy of their collaboration in the treatment of certain serious diseases of the digestive system, in: Rev. de Stomat., xxxiii(5): 257-265. May, 1931.

The purpose of the author is to show the close relationship which exists between pyorrhea and gastrointestinal diseases and the importance of coöperation in their treatment. Several case histories are presented in which vaccines were used made from hemolytic streptococci obtained from blood drawn from the septal gingivae.

Favorable results are reported in all cases. How much of the improvement was due to the vaccines and how much to local treatment is not reported, though in one case in which credit is given to the vaccine, "the pyorrheal pockets were destroyed and fifteen teeth extracted."

—*A. H. M.*

201—Muir-Smith, H., L. D. S., R. C. S. (England): **Scaling and gum treatment,** in: Brit. Dent. J, lii: 73-77. Jan., 1931.

Elementary article on treatment of periclasia. Interesting to note that mention is made of part of fee being paid by the Society of National Health Insurance in case of supposed Vincent's infection, and also the statement "that in the case of" the panel patient the only treatment is ruthless extraction.

—*W. Y.*

202—Neugebauer, Kurt (Innsbruck): **Beitrag zur medikamentösen Selbstbehandlung und Prophylaxe bei Stomatitiden und Erkrankungen des Paradentiums.** Contribution to the medicinal prophylaxis and home care in stomatitis and disease of the paradentium, in: Zahnä. Rdsch., xl(2): 1283-1284. 1931.

In the treatment of disease of the oral mucosa and the paradental tissues the author points out that the results, whether surgical, medical, external or internal, depend on the coöperation of the patient by thorough home care.

In gingivitis and stomatitis, the author ordinarily uses salvarsan with good results in refractory cases. He quotes Kritchewsky and Sèguin in the use of *Sanogyl* tooth paste as an anti-fusospirochetal preparation. It contains neo-arsenobenzol with a salt of fluorine which acts as a solvent of calculus, is alkaline in reaction and does not attack the enamel.

Case histories are given. Author considers *Sanogyl* of special use in luetics; also valuable for daily use of industrial workers who handle mercury.

—*Transl. from art., H. A. R.*

203—Neustadt, Egon, D. M. D.: **The correction of tooth malposition as a factor in the prevention and treatment of periodontal disease,** in: N. Y. J. Dent., i: 14-23. Jan. 1931.

Etiology of traumatic occlusion is (1) cuspal interference where cusps are unworn or teeth rotated; or (2) over-eruption from loss of antagonists. Eruptive force is necessary but dangerous if uncontrolled. Eruptive force easily stopped by mucous membrane of opposing jaw. Bone and peridental tissues have grown en masse.

Treatment of over-erupted teeth is either grinding down or intruding by orthodontic measures. Over-eruption may occur when teeth are malposed and erupt past each other. This is a frequent cause of excessive overbite. One of the most frequent causes of excessive overbite is loss of lower first molar. Even when the space is entirely closed up the condition is very bad. The second molar tips mesially, bicuspids strike cusp on cusp, lower incisors may strike on upper palate, and every forward thrust gives tremendous stress to incisors. Loss of the lower second molar or bicuspid leads to similar defects.

Loss of contact in the incisor region occurs also from mouth breathing, under-development of the mandible and faulty lip habits.

In treatment of periodontal disease the excessive overbite should be considered as a secondary symptom of a primary cause. Prevention lies in space retaining, correcting faulty lip habits, correcting mouth breathing, early orthodontic treatment of Class II defects. The author thinks that opening the bite by splints or inlays is dangerous. Open bite usually due to tongue. Several good illustrations.

—*H. J. L.*

204—Ormiston, F. A.: **Vaccine therapy,** in: Dent. J. of Austral., iii(7): 386-7. July, 1931.

The author describes his inconstant success with careful use of vaccines and then gives an account of personal experience with a serious attack of "Trench Mouth," during five weeks in the wilds of Queensland, necessarily without fruit or vegetables. On his return home he lived for a week on green vegetables and fruits, the only treatment used being tincture of iodine. In 48 hours the suppurating gums could be brushed without bleeding; in one week there was complete cure.

—*H. A. R.*

205—Palazzi, Silvio, Prof. Dr. (Univ. of Pavia, It.): **Terapia delle paradenziopathie.** Therapy of paradentosis, in: La Stomat., xxix: 37-43. 1931.

Author's Summary

In conclusion, with a sufficient diagnosis which takes into account the general organic complex of the individual; has examined the conditions of the metabolism; has given due attention to changes in the endocrine glands; which has, in short, considered all the factors, pathologic and pathogenic, entering as direct or accessory causes into the genesis of paradentosis, and the evolution of the disease process which it represents,—it should be remembered that the therapy of paradentosis should have a notable success and in every case accomplish a noteworthy amelioration of the affection, by means of good general care, and local intervention at the proper moment.

—*Transl., H. A. R.*

206—Palazzi, Prof. Silvio: **Gvarigione con la colloidterapia di periodontiti croniche apicali con formazioni cistiche. Heilung der apikalen Herd-Ostitis (chronischer Periodontitis) mit Zystenbildung durch die Kolloid-Therapie.** Cure of apical localized osteitis (chronic periodontitis) with cyst formation by colloid therapy, in: Nuova Ross. Odont., xii: 123. 1931, in: Z. Rdsch., xl(24): 1045-48. 1931.

Dr. Palazzi believes that medical treatment of root canals with suitable medicaments of strong and lasting antiseptic qualities is to be preferred to resection of root tips and also to physical methods (Roentgenization, diathermy). These are useful in the support of medicinal treatment, but by themselves do not achieve the ends desired.

The colloid therapy which the author himself named and introduced into Italy consists fundamentally of three elements; iodoform, colloidal silver and chlorphenol. These are entirely stable compounds without chemical incompatibilities. Several cases are described and illustrated with radiograms.

—*Transl., H. A. R.*

207—Rosenthal, Dr. Pierre: **Les facteurs de l'immunité local.** Factors in local immunity, in: L'Odont. Jan., 1931. Abs. Brit. Dent. J., lii(1): 440-441. 1931.

In studying the systems of Besredka and Hérelle, and the causes for their failure, Rosenthal found that the two methods succeeded best when worked out together,—the advantages of one counterbalancing disadvantages of the other. In this way septic conditions of teeth, osteitis, abscess, gingivitis, stomatitis, and finally pyorrhea may be combated.

—*Copy*

208—Roy, Prof. Dr. Maurice (Paris): **Les abcès pyorrhéiques serpigineux, leur traitement.** Serpiginous pyorrheal abscesses, (their treatment), in: L'odont., Feb. 1931. Sem. Dent., xiii: 418. 1931. Paradentium, iii(1): 35-41, Z. Rdsch., xl(7). 1931.

Author's summary.

Pericemental abscesses resemble in their various forms the abscesses due to pulp infection; but in contrast to these latter, the pulp is always intact. The author shows that in these abscesses an involvement of the marginal portion of the gum is always present, which forms the starting point for the building of a paradentotic pocket. When the pocket is closed by any cause whatever so that the pus cannot drain away, it burrows serpiginously about the root to find a less resistant place in the vestibular alveolar wall in order to escape. The author calls these abscesses serpiginous purulent abscesses. Their opening is often so small as only to be found by meticulous search. They occur most frequently on the upper incisors but also on upper and lower molars.

The treatment consists in unremitting attention to the pockets, which means careful curettage (best with the Younger instruments) as long as the slightest roughening is present. 10% zinc chloride solution is carried in on cotton so as to come in contact with all parts of the pocket. Such teeth must be regularly controlled so that they do not become reinfected.

—*Transl., H. A. R.*

209—Ruchti, Paul (Berne): **Untersuchungen ueber die Anwendungsmöglichkeit der d'Arsonval-Hochfrequenzströme in der Zahnheilkunde und deren bakterizide Wirkungen.** Studies on the possibilities of employment of the d'Arsonval high frequency currents in dentistry, and their bactericidal activity, in: Schwz. Mschr. f. Z., xli(11): 1139. Nov., 1931.

(See Alveolarpyorrhoe, p. 1145)

The thorough removal of calculus precedes the electro-osmosis of the gingiva. Electromassage is given at four to five day intervals. Gingival massage is prescribed to the patient twice daily.

Convincing cases, referable to the high frequency current, were obtained in none of the cases.

—*Transl. from article, H. A. R.*

210—Snapp, Ralph B., D. D. S.: **The present status of periodontoclasia,** in: Modern Dentistry: pp. 36-48. Nov., 1931. Selected from Dental Digest, xxxvii(6): 373-379. June, 1931.

Among the topics discussed in a somewhat general article is the sphere of the general practitioner; the prevention of periodontoclasia and its detection in the incipient stages. Among the causes stress is laid upon traumatic occlusion and the progressive changes producing pus pockets are described. In regard to treatment, correction of traumatic occlusion, removal of mechanical irritation and building up of tissue resistance are emphasized. Methods of using the toothbrush must be taught the patient.

—*H. A. R.*

211—Spalding, Grace Rogers, D. D. S.: **Conservation applied to periodontia,** in: J. Am. Dent. A., xviii(11): 2087-92. Nov., 1931.

The writer makes a plea for a wise use of knowledge, time and skill in the treatment of periodontal lesions, therefore discourages the use of radical surgical methods except in emergencies. Every periodontist must know something of the etiology, prevention and treatment of dental caries as defective teeth are frequently the cause of periodontoclasia. Many have successfully treated and cured periodontal disease by the thorough application of conservative methods. This work has been a great step toward prevention in dentistry although there is a tendency on the part of the dental profession generally, to undervalue and ignore that which is already known concerning the prevention of peridontal diseases and dental caries. Indifference toward

the work of the periodontist is probably caused by a lack of effort on the part of the periodontist himself to demonstrate to the general practitioner the value of his work in preventive dentistry. The periodontists are not waiting for the research laboratories to solve the complete etiology of dental and periodontal disease or to offer the ultimate means of prevention but they are removing factors which they know have a definite deleterious influence on the dental and oral tissues. Since the causes of dental disease are numerous, the periodontist should increase his knowledge of the pathology of hard as well as soft tissues and know the function of the supporting tissues of the teeth and the relation of mouth to the body. Because of this interrelationship it is essential that he become more interested in the medical sciences.

For the periodontist to successfully practice prevention, he must instruct his patients in the proper methods of home care. With satisfactory co-operation, the operator is able to control dental diseases with a high measure of success. The writer advises every operator to consider the possible results of conservative treatment, which can be obtained by any periodontist who has a delicate sense of touch and who is familiar with and is well trained in the technique of conservative measures for the treatment of periodontoclasia.

—*J. W.*

212—Spalding, Grace Rogers, D. D. S.: **Procedure in examination for periodontoclasia,** in: J. Am. Dent. A., xviii (8): 1484-1488. Aug., 1931.

The author's aim is to emphasize the need of more simplified methods of examination and treatment of periodontoclasia. The examinations for dental and also medical diseases have often been too complicated. Better results in diagnosis might frequently be obtained by more simple methods based upon clinical experience, wisdom, observation and judgment. *Too much* stress has been placed on the value of roentgenograms, casts, chemical analyses and medical diagnosis. One must admit these complications in diagnosis are not always feasible even though in many cases helpful.

Before any examination is made, the dentist should inspire confidence in the patient by convincing him that he is interested in him as an individual. The operator will then readily obtain what personal information is needed. It is always desirable to know if the patient has been previously treated and if so, with what success. Before a complete local examination is made, the relief of pain, if any, should be given, as this is a large factor in winning a patient's gratitude. Note the form, color, tone and position of the gingival margins and interdental papillae; explore the gingival crevice and pockets, gently press over root areas to force pus, if any, from the pockets. It is desirable to reduce the bacterial count in the mouth by mechanical measures as well as by the patient's home care.

The value of X-Rays has been especially over-emphasized and interpretations are often incorrect; so it behooves the dentist to know how to focus the ray for different findings such as, for cavities, periodontal and periapical conditions. When dental roentgenograms and casts are used the latter should be made and studied before treatment is given as often they reveal difficulties that would otherwise be overlooked.

The purpose of the article is to encourage the operator to train himself to visually recognize the least deviation of the periodontal tissue from the normal as well as any dental defects and to simplify diagnosis, thereby enabling him to take care of a greater number of patients and at more conservative fees.

—*J. W.*

213—Stancius, P.: **Possibilities in therapy of pyorrhea alveolaris,** in: Medicina, Kaunas, xii: 795. Dec., 1931.

Not available.

214—Stärke, Walter, Dr. med: **Die Entlastungsbehandlung der Paradentose.** Treatment of paradentosis by correction of malocclusion, in: Zahnä., Rdsch., xl(1): 3-8. Jan., 1931.

The most important aim of all treatment of occlusion is the attainment of equal distribution of stress on all the teeth. This includes not only the ordinary articulation but also the regularization of different stresses inside of the dental arches.

In each individual case special study must be given to the causes which have led to the disturbance of equilibrium.

—*Transl., H. A. R.*

215—Talbot, F., M. R. C. S., L. R. C. P., L. D. S., R. C. S.: **The role of actinotherapy in orthodontia,** in: Brit. Dent. J., lii(1): 583-589. June 15, 1931.

Colyer, Stanley: **Pyorrhea,** in: Brit. Dent. J., lii(1): 585. 1931.

(1) Mr. Stanley Colyer observes that in making X-ray examinations of patients having pyorrhea, he found that a high percentage of these had undergone prolonged orthodontic treatment in their "teens." He suggests that a low-grade gingivitis is apt to set in as a result of the sepsis often associated with the wearing of apparatus, and that the alveoli are often injured by the movement of the teeth. These results are eminently liable to lead to the development of pyorrhea. Sir Frank Colyer endorsed this opinion in his third Dental Board Lecture, 1930.

(2) Sir H. Gauvain observed that a dose of ultra-violet light on the back rapidly cleared up the so-called dyspeptic ulcers of the mucous membrane of the mouth. The author has repeatedly confirmed this, "as well as its similar effect on the gingivitis frequently found in children and young adults." It is concluded that the ultra-violet light stimulates the natural defences of the mouth against infection of abraded surfaces. . . . The buccal ulcer and gingivitis are alike an indication that the normal defence has broken down, at least, locally and temporarily.

(3) Drs. Maughan and Smiley seem to have found that regular body-baths of ultra-violet light conferred a 50 per cent increased immunity against the common cold . . . Since the micrococcus catarrhalis is always abundantly present in simple gingivitis, it is fair to conclude that the irradiation of the skin also raises the defences of the gum against this common infection. Mrs. Mellanby has recently reported that it is possible to produce gingivitis by withholding vitamin A from the diet of dogs. This strongly confirms the findings in the case of light.

The author then describes a case of catarrhal gingivitis by irradiation with the Hg vapor lamp for two minutes at a distance of 15 inches, clearing up the condition in two days. He then continues: Admitting "that a course of orthodontic treatment is an important predisposing factor in the aetiology of pyorrhea alveolaris, . . . rational prophylaxis would seem to reside in early and effective treatment of gingivitis, and support for the healthy development of bone." Body-baths of ultra-violet light meet both these requirements. The conclusion is drawn that in view of the established importance of chronic gingivitis as a precursor of pyorrhea alveolaris, it is unjustifiable to continue a course of mechanical orthodontic treatment in its presence; and the author claims to have shown definitely the effectiveness of the ultra-violet body-bath in the treatment of gingivitis in children and young adults.

—Copy.

216—Thibault, R. C. (Paris): **La vaccinothérapie dans les infections d'origine gingivo-dentaire.** Vaccinotherapy in infections of gingivodental origin, in: Paris Méd., Sept. 19, 1931; Abs. Sem. Dent., xiii(12): 1522. Dec. 19, 1931.

In the local treatment of pyorrhea, when used with skill and combined with arsenical medication, vaccinotherapy has a certain value against gingival suppuration and painful subacute inflammatory exacerbations. The treatment must be repeated, for the immunity created against streptococci and staphylococci is seldom lasting.

—Transl., H. A. R.

217—Tishler, Benjamin, D. M. D.: **The divided responsibility for success in conservative periodontal treatment,** in: D. Items of Int., liii(2): 105-111. 1931.

Success in the conservative treatment of periodontoclasia depends on the operator's knowledge of biologic phenomena, his operative skill and the patient's cooperation.

After skillful conservative treatment, tissue regeneration is radiographically evident, and clinically proved by firmness of the teeth.

Recurrence of the diseased condition results unless there is earnest coöperation between operator and patient, since measures must be followed to preserve the healed tissue. Therefore, the physiologic benefit of proper toothbrushing must be explained to the patient and instructions followed consistently.

Intelligent coöperation of the patient during and after the periodontist's treatment will eliminate etiologic factors and aid in maintaining metabolic balance.

—C. J. C.

218—Tripp, S. T., R. C. S. (England): **The mechanics of pyorrhea and a note on treatment,** in: D. Mag. and Or. Top., xlviii(6): 571-586. June, 1931.

The author cites Freng (of Norway) on treatment of pyorrhea with Carbon dioxid delivered by atomizer under pressure of about four atmospheres.

—H. A. R.

219—Vincent, Dr. Réné: **La clapier pyorrhéique. Interprétation — traitement.** The pyorrheic pocket. Interpretation and treatment, in: Rev. de Stomat., xxxiii(5): 271-287. May, 1931. Abs. Sem. Dent., xiii(10): 1185. 1931.

After a study of "many hundreds of cases" it is the author's belief that there is a direct relationship between the condition known as pyorrhea and that which he calls "an infectious condition localized at a distance from the mouth"; that this remote infection precedes the pyorrhea and has much to do with the cause. As further evidence he states that the organism found in the blood of inflamed gingivae is the same as that found in the "pre-existing inflammation" and that blood so obtained yields but one species only, which organism may be found in the pyorrhea pockets. Reference is made to the "usually favorable" effect of vaccine therapy in these cases using the organism found in the blood culture.

—*A. H. M.*

Author's conclusions:

1. A blood culture made with blood taken directly from the gingiva at the stage of congestion yields only one microbic species.

2. This pure culture may be retrieved in the active zone of the pockets.

3. It is the same as that which originally was found in the pre-existent inflammatory lesion remote from the buccal center.

4. Whether the infection has disappeared or not, may be recognized from this hemoculture.

5. If, leaving the pocket intact, a barrier, antiseptic and bactericidal, is set up between the pocket and the organism, the phenomena cease and the suppuration dries up.

6. This barrier (bactericide and fibrous) is an important factor in the cure.

7. Vaccinotherapy, starting with the microbe of the hemoculture, is subject to imperfection, here as elsewhere.

—*Transl., H. A. R.*

220—Wallisch, Wilhelm (Vienna): **Die Behandlung der Alveolarpyorrhöe.** Treatment of alveolar pyorrhea, in: Ztschr. f. Stomat., xxix(12): 1326-30. Dec., 1931.

(Preceding chapters in H.11, Nov. 1913; H.6, June 1928; and H.7, 1929.)

Author's conclusions, p. 1330.

If no suppuration is present but only a simple alveolar atrophy of which the loosened tooth is the token, the use of red rays of long wave length is sufficient. But we are not yet come so far as to assure patients with certainty that each loose tooth will again tighten.

If suppuration is already present, we must first be sure that no calculus is present; then a tamponnade of the gum pockets may be employed beside the use of antiseptics and the light treatments. Also in addition the coöperation of the patient must be secured in the home care necessary. Here a powerful atomizing apparatus may be used, which is also beneficial in the hands of the dentist. Finally it should be carefully noted that the accumulated filth be not brushed into the pockets, through vertical cleansing of the teeth.

Here the author quotes Prof. F. J. Lang (Zahnä. Rdsch. xxxix, 1931): "Paradentose oder Paradentitis?"

"If evidence of primary atrophy is present in paradental bone, such evidence by itself can never lead to the clinical picture of alveolar pyorrhea."

The sign of *atrophia alveolaris int.* is the loosened tooth. In case of the normal tissue, the sentence introduced above may be important, as in that cited above of a loosened corner of a bridge abutment tooth, where there was no trace of suppuration. In the atonic tissue where the resistance is lost which is present in this atrophy, the invasion of the inciting cause of inflammation arouses too little opposition or none at all, and it does come to a picture of alveolar pyorrhea.

The cure of atony is emphasized by the author as the cure of pyorrhea.

—*H. A. R.*

221—Waugh, Dorothy B.: **Pyorrhea alveolaris;** its relation to the loss of supporting tissues; and the restoration of the same by artificial means, in: Austral. J. Dent., xxxv(8): 285-289. Aug., 1931.

Article by a talented Melbourne student now at Temple Univ.

222—Weber, Dr. Rudolf (Cologne): **Pathologie und Therapie der Zahnlockerung.** Pathology and therapy of tooth loosening, in: Fortschr. d. Z. vii(5): 432-45. 1931. Abs., Schwz. Mschr. f. Zhkde., xli(8): 920. Aug., 1931.

The Weski classification of the paradentoses is first discussed and Weber goes into

the anatomy of the alveolus. The masticatory forces are reviewed in reference to tooth loosening. Münzesheimer gives the following factors:

1. Direction of the force; 2. Duration; 3. Point of attack; 4. Amount.

Each of these points is discussed and special weight placed upon traumatic occlusion. Presentation of models and study of articulation. The deep bite is a traumatic occlusion. In treatment, the normal biologic equilibrium must be re-established. Not only must the sidewise tipping force be shut off, but the row of teeth must be tangentially stiffened up. This may be done by a splint with clasps, a prosthetic appliance, or a bridge. All concomitant irritation must be removed.

—*Transl. of abs., H. A. R.*

223—Westwater, L. A., L. D. S.: **Some observations on the surgical treatment of pyorrhea,** in: Brit. Dent. Record, li: 445-448. 1931.

The writer presents a description of a method of removing pyorrhea's most distressing symptom—pockets containing pus between and around the teeth. Diseased tissue, which has degenerated to the extent of producing pus, is best treated by excising it and providing free drainage. In selecting cases to be operated upon, it is important to observe the general condition of the patient. As a preliminary, the mouth must be brought into as healthy a condition as possible by means of scaling and cleaning, etc. The first step is to determine the extent of the pockets for it is necessary to carry the incision to their full depth. It is usually better to operate in sections—the entire operation requiring several visits. While the author prefers the ethyl-chloride spray assisted in the more inaccessible parts with novocain, a general anesthesia may be used. Taking the lower incisor region as an example, isolating the entire region with napkins, keeping the parts perfectly dry, the whole area is swabbed with iodine, labially and lingually. The ethyl-chloride is then applied along the margin of the gum spraying the labial aspect first, until it presents a frosted appearance. The incision is made, holding the lancet at an angle 45 degrees to the long axes of the teeth with the handle pointing downwards. Starting at the distal aspect of the left canine it is carried without a break to the distal aspect of the right canine at a pre-determined depth according to the extent of the pockets. The tissue being frozen cuts cleanly, remaining firm under the knife, and on completion of the incision should leave in one clean strip. Where the teeth are spaced, supplementary incisions must be made interstitially to free the strip from the lingual surface. Cleanliness and accuracy of the incision cannot be over estimated. A ragged, uneven cut induces a recurrence of the infection. For this reason he recommends the use of the spray on every possible occasion.

—*J. C. S.*

224—Wilson, Dr. Wilfred R.: **Dunlop method of treatment of mouth diseases,** in: Apollonian, vi(1): 156-161. July, 1931.

The author describes the Dunlop method of treating mouth diseases by the use of medicated surgical wax and medicated surgical paste composed of dehydrated boric acid with glycerine and methol yeast compound, treated with oxygen followed by a wet spray non-astringent solution of oxy-mentheborate.

As treatment progresses, a dry vapor (compound oxygen vapor) may be indicated both for its diagnostic and curative value.

It is made perfectly clear, however, that the treatment follows the same careful removal of deposits from root surfaces generally advocated.

—*H. H. C.*

225—Winkler, Rudolf (Frankfurt a. M.): **Der heutige Stand der Paradentoseforschung und seine Beziehungen zur Orthodontik,** in: Fortschr. Orthodontik, i: 529-532. 1931.

The writer who in common with *Thielemann,* has invented a special articulator, emphasizes the modern goal of orthodontic treatment: not the establishing of normal occlusion but of normal articulation.

Cases described and interestingly discussed.

226—Wolff, Dr. H.: **Was können wir von der Diathermie erwarten. Ce que nous sommes en droit d'attendre de la diathermie. Aperçu de l'état actuel de nos connaissances dans ce domaine.** What we have the right to expect from diathermy. Sketch of present status, in: Revue mensuelle suisse d'odontologie. Mar., 1931. Abs., Rev. Odont., lii: 448-451. June, 1931.

The author gives as the indications for root treatments by diathermy the following:

1. Coagulation of intact pulps; 2. Coagulation of infected pulps; 3. Periodontitis acute; 4. Periodontitis chronic; 5. Pulpal gangrene; 6. Granulomas, cysts, fistulae.

He notes that in devitalization of the pulp by diathermic methods one avoids the periodontoclasia which frequently follows a simple amputation under either local or general anesthesia. The diathermic cautery is indicated for ablation of the granulations and resection of the gingival pockets in paradentosis.

The author finds important indications for diathermy in dentistry but its correct application is a delicate matter and requires a long period of preparatory training, as much in theory as in practice.

—*H. A. R.*

(g) Home Care and Prophylaxis

(Continued from July, 1932, page 160)

30—Fairchild, J. S., D. D. S. (Gallipoli): **Dieting to prevent pyorrhea.** Viewpoint and experiences of an English physician, in: Dent. Survey, vii(4): 39-41. Apr., 1931.

The author notes the appalling commonness of pyorrhea and the increasingly lowered age of incidence. The article, though brief, is most entertainingly written and has the merit of a new viewpoint.

Dr. F. believes that pyorrhea is brought about by a lack of balance due to food deprived of chiefly its mineral content, and especially of lime which brings about an acidosis causing the other body tissues to rob the teeth.

In Gallipoli they live mainly on tinned foods on account of difficulties of transportation, as they do elsewhere to save time. He describes several cases which have led him to believe that pyorrhea is scurvy in a milder form. It should be early recognized by the change in color of the gingivae. Every operation undertaken is destructive.

Proper food will clean up almost any case without local treatment of any kind. He cites the McCollum diet whose bases are: milk, eggs, fruits and raw vegetables.

—*H. A. R.*

31—Gottlieb, Bernhard, (Vienna): **Was können wir prophylaktisch gegen Zahnausfall tun und welche therapeutischen Massnahmen stehen uns zur Verfügung?** What prophylactic measures may be employed to prevent the exfoliation of the teeth and to what therapeutic measures may we resort?, in: Wiener Klin. Wchnschr., xliv: 1445-46. Nov. 13, 1931.

Gottlieb discusses various prophylactic measures which assist in preserving a healthy condition of the oral cavity and teeth; this problem was partly discussed in the review of his article entitled, "How the chronic gingival inflammations arise and how they result in the loss of teeth," which appears in this issue of the Journal of Periodontology (d) 188. These measures consist in care of the mouth by the dentist during and after acute bodily diseases, regular, proper home care by the patient, the correction of irregular occlusal conditions and carefully constructed dental restorations (fillings, crowns, etc.) He states that no conclusive evidence of the influence of nutrition, as an etiological factor of periodontoclasia, has been established. Vitamins which are found in animal liver and vegetables seem to be of some importance and should be included in the daily dietary. Vigantol medication is contra-indicated. Occlusal over stress should be relieved.

The writer notes that much periodontal injury results from pressing and grinding the teeth together when the mouth is empty during the day and during sleep, a habit which eventually causes them to become loose and elongated. The abnormal occlusal stress which results should be relieved by grinding. Karolyi suggests treatment for constipation which he feels is an etiological factor of grinding during sleep and A. Schwarz reports good results by advising patients to sleep on their back; this causes them to open the mouth and separate the jaws. The fitting of a rubber splint over the teeth of one jaw assists also. Artificial restoration of missing teeth and the fixation of those remaining, aid in maintaining function of the denture for many years but such restorations are not always feasible.

Gottlieb states that cases of gingivitis and mobility of the teeth are not always due to external factors because such phenomenae are observed in well cared-for mouths; moreover, gingivitis ceases spontaneously after the teeth involved are extracted or exfoliated.

He advises gingivectomy in cases in which deep pockets and tooth mobility result from marginal gingivitis. The use of paraffin packings and cauterization is advised for after treatment. Paraffin packing and the so-called Dunlop treatment are mentioned as efficient in the treatment of "livid gingival irritations." Weinmann and Links found that the use of oxygen therapy influenced favorably the internal symptoms, present in cases of parapulmonary conditions. Gingivitis gravidarum which heretofore has resisted treatment measures, reacts favorably to oxygen insufflation also. The writer reports a case of many years' standing which exhibited recurrent symptoms of severe fever accompanied by marked hypertrophic gingivitis which was treated successfully by oxygen therapy.

—*B. T.*

32—Herxheimer, Karl: **Gesundheitliche Schädigung durch Schönheitsmittel.** Injurious effects of cosmetics on health, in: Die Umschau, xxxv(42), 829-31. Oct., 1931.

Face paints containing lead may cause chronic poisoning, shown by an inflamed oral mucosa and especially by gingivitis. Dentifrices and mouthwashes containing salicylic acid or ethereal oils may cause eczema, which usually subacute, may last for months and gradually cause thickening of the lips.

—*Transl.*

33—Hirschfeld, Isador, D. D. S.: **Toothbrush trauma recession:** a clinical study, in: J. Dent. Res., xi(1): 61-63. Feb., 1931. Abs. No. 5.

The toothbrush properly used is without doubt, the most potent practical means today of preventing various dental and periodontal diseases. On the other hand, a close observer will note that tremendous damage, dental or periodontal, may and frequently does accrue from improper manipulation of the brush. The incidence of such ill results naturally increases in proportion to the spread of the toothbrushing habit. It is timely, therefore, that closer observations be made and recorded of the diagnosis, etiology, prevention and correction (where possible) of such results.

The essayist does not attempt in this paper to analyze the relative merits or short-comings of the various standard methods of toothbrushing, but rather calls attention to damage produced by various irregularities in the carrying out of these methods as well as by anatomic abnormalities that require special consideration in the manipulation of the brush. He also stresses the importance of periodic inspection for any indications of damage resulting from improper brushing, as well as for a detailed checking up of the patient's handling of the brush. For the former purpose, a set of good record casts is invaluable for future comparison.

The essayist mentioned instances where different patients, soon after they had been properly instructed, fell into individual eccentricities in either the manner or sequence of brush manipulations, resulting rapidly in characteristic recession of the gingiva, toothbrush abrasion, cervical hypersensitiveness or erosion. The tragedy of such end results is all the greater where the enthusiastic brushing is prompted either by vanity or special effort at prophylaxis. Photographic evidence showed progressive stages in recession due to toothbrush trauma, and also demonstrated that, with the corrected brushing, return of healthy gingival tissue toward its normal position and contour was made possible.

The following are some of the elements that induce gingival recession through toothbrush trauma:—

(1) Anatomic abnormalities: a. the dental arch—the more accentuated the convex contours, the greater the pressure per unit area at these points. b. Malposition of individual teeth—as a tooth protrudes bucally to the arch, to such a degree do its investing tissues over the protruding part take on greater pressure per unit area. c. Alveolar deficiency—over teeth so protruding, there is usually a corresponding alveolar deficiency; clinical observation seems to confirm the theory that, exposed to similar mechanical traumatization, gingiva covering a root surface directly will be effaced much more rapidly than that covering alveolar process.

(2) Stiffness of bristles as influenced by locational sequence of brushing—the stiffer the bristles, the greater the pressure they can exert; therefore, the most vulnerable parts of the arch; namely, accentuated contours, should be brushed last, i. e., when the bristles have become comparatively soft.

(3) Size and briskness of the strokes—longer and more brisk strokes of the brush seem more destructive to the gingiva than the short and gentle strokes.

The essential points in the differential diagnosis of toothbrush trauma recession in its pure form are:—

1. Its restriction generally to the labial or buccal side.

2. Its accentuation opposite individual teeth, to a degree according to their protrusion outside the dental arch.

3. The recession is most marked in the area first attacked by the brush, especially where the dental arch is normally formed. This may be corroborated by a tooth brushing demonstration by the uninformed patient.

—*Copy.*

34—Lichtwitz, Dr. Alfred: **Ueber die Brauchbarkeit von Gummizahnbürsten.** On the usefulness of rubber toothbrushes, in: Zahnarztl. Rdsch., xl(15): 648-650. Apr. 12, 1931.

Author believes the bristle toothbrush to be far from ideal, but since overcooked foods always come to the table of mankind, and good bread is less than ever in evidence, the natural means of cleansing is absent and must be replaced by artificial means. He considers the requirements of a good toothbrush: 1. good mechanical cleanser; 2. avoidance of all injury to hard tooth substances as well as to paradental tissues. But the rubber toothbrushes now on the market do not solve the problem; the interdental space cannot be cleansed with them, the tooth contours can be rubbed with the rubber brush but less well than by the finger bare or covered with a cloth. Even for massage, pressure with the rubber brush as strong as can be exerted by the finger may injure the tissues.

So the use of the bristle toothbrush must be continued.

—*H. A. R.*

35—Métrot, René (Paris): **Prevention of pyorrhea by oral prophylaxis,** in: Proc. viiith Int. Dent. Cong., Sect. iv: 122. 1931. D. Cosmos, lxxiv(2): 201. Feb., 1932.

(1) In spite of the different opinions advanced concerning the etiology of alveolar pyorrhea, the local causes play an important part in the evolution of the disease.

(2) The local causes may be arranged thus:

(a) pathological causes; (b) mechanical causes; (c) static causes.

(3) The prophylaxis of pathological causes is chiefly based on the daily brushing of the entire gingiva with a hard brush.

(4) The prophylaxis of mechanical causes should tend to: (a) the perfect restoration of the decayed teeth; (b) fillings without overflow; (c) correct points of contact; (d) prosthesis with the least injury to the necks of the teeth.

(5) Regarding prophylaxis of the static causes, one must not forget that one of the factors contributing to the development of pyorrhea is the weakening of the soundness and normal equilibrium of the dental arches (Roy.). This prophylactic measure should be carried on from childhood through the whole of life, by means of—

(a) A conservative dentistry, which should aim from childhood to avoid premature extraction of deciduous teeth and any of the permanent teeth.

(b) Orthodontia for children in order to secure correct dental arches and good occlusion.

(c) The equilibrium of the articulation of teeth should be carefully looked after from the very beginning of the disease. It will act as a prophylactic measure against the mobilization of the teeth.

(d) Prosthetic replacement of missing teeth. Preference should be given to bridges fulfilling the particular conditions of equilibrium due to pyorrhea. (Roy.)

(e) The gingivo-cervical groove on the teeth of all patients, even those with satisfactory hygiene, should be examined in a regular and systematic way, in order to trace the most precocious evidences of alveolar pyorrhea and to treat them.

—*Copy.*

36—Pauson, Dr. H. (Berlin.): **Zahnreinigung und seidenfaden.** Tooth cleansing and silk threads, in: Zahnárztl. Rdsch., xl(7): 284. 1931.

If patients would use the proper foods and masticate vigorously enough, neither toothbrushes, tooth picks nor dental floss would be required; but that mankind will ever cease to eat cooked foods is not to be hoped for. The author sees no objection to the use of dental silk but warns that the patient must be carefully instructed in its proper use.

—*H. A. R.*

37—Sorrin, Sidney, D. D. S.: **The use of the toothbrush as a preventive and cure,** in: D. Cosmos., lxxiii(4) 378-383. Apr., 1931.

A very good article with illustrations of the Stillman method of brushing the teeth massaging the gingiva and teaching the patient. The author estimates the value of home care as one-third in the treatment of periodontoclasia. He impresses his patient by a talk on stimulation, color tone and circulation of the periodontal tissues using diagrams, word pictures and analogies in the patient's field of interest, like the color of health in a child's cheeks, or the effect of disuse in the treatment of a fracture. The treatment of periodontoclasia is a triad of factors (1) the removal of etiological factors, particularly the establishment of occlusal equilibration; (2) the removal of deposits and smoothing of cementum; (3) the raising of tissue resistance by toothbrush massage and proper diet. The "Stillman" method requires a toothbrush with short working head and long stiff bristles, the handle bent slightly toward the bristles, and the bristle tufts of even length. It is used moistened with a solution based on a Prinz formula:—

Phenolphthalein	gr. 3
Menthol	gr. 7
Saccharin	gr. 10
Methyl salicylate	½ drachm
Calcium oxid (Lilly)	2½ drachms
Sodium chloride	16 ounces

Misce et adde

Alcohol	½ ounce

M. ft. pulv. disp. in vitro Sig. ¼ teaspoonful in glass of warm water as a dentifrice.

Half the solution is used as a mouthwash before breakfast and half afterwards as a dentifrice. Brush massage is done after breakfast, after lunch and before bedtime. The brush is so placed that the bristles form an angle of 45 degrees with the gingiva,—the bristle ends resting partly on the gingiva, partly on the tooth, and pointing toward the apices of the roots. The handle is swayed from side to side without moving the bristle ends. After a few moments of this motion, the brush is brought down over the teeth to the morsal surface. It is replaced and the pressure and motions repeated. The patient is instructed by watching the demonstration in a mirror. The technic for cleansing the morsal surfaces and massaging the labial and buccal is first taught. At a subsequent sitting, instructions for treating the lingual surfaces are given. In narrow arches the lingual surfaces of the anterior teeth may require that the brush be held vertically. During the demonstration the brush is dipped after each application into the salt solution. The removed mucin and débris curdle in the solution and tend to decolorize it. These effects impress the patient with the amount of material removed. The blanching of the gingiva followed by flushing under brush pressure and release is also demonstrated to show the value of massage. The patient is required to demonstrate his brushings at intervals after being instructed until efficiency is attained.

—*H. J. L.*

38—Weisbach, ——: **Welches ist die beste Methode der Mund-und Zahn reinigung?** What is the best method of cleaning the teeth?, in: Zahnärztliche Fortbildung, xxviii: 564. 1931.

The article, one page long, is too brief to answer so difficult a question.

—*H. A. R.*

39—Worman, Harold G., D. D. S.: **Seven varieties of pills,** in: Mnpls. Dist. Dent. J., xiv(1): 23-26. Mar., 1931.

Article on massage of the gingiva. Gives value of chewing apples and other hard foods for their massage effect in "punching" the gingivae. Speaks of massage effect of the slight intrusion of the tooth under masticating pressure. Intrusion massages gingiva by pulling cemental gingiva over the alveolar crest. The author thinks decreasing need of mastication has encouraged a vicious habit of not keeping teeth in contact while at rest. Remedy lies in artificial massage with toothbrush, using the so-called Charter's method. The type of brush is described together with the method. A good diagram of a tooth in situ illustrating the blood supply accompanies the article.

—*H. J. L.*

(h) Vincent's Infection

(Continued from July, 1932, page 169)

97—Albray, Raymonde A., D. D. S.: **Vincent's infection—a medical and dental problem,** in: D. Cosmos, lxxiii(9): 878-883. Sept., 1931.

The author stresses the need of coöpera-

tion between physicians and dentists in the recognition and treatment of Vincent's infection.

As this infection usually starts in the mouth, its treatment there should be undertaken by the dentist. However, the dentist who wishes to render his patients intelligent and conscientious service should call on the physician to administer systemic medication and by so doing assist in the cure and prevent the spread of the infection.

Conversely, the physician who recognizes Vincent's infection in the mouth of a patient should feel it to be his duty to ask the dentist to assist him.

The first procedure in diagnosis is the collection of smears, followed by a review of the clinical symptoms. The mouth is first cleansed with spray and arsphenamin powder packed about every tooth in the mouth. It is also suggested to the physician that he inject intra-muscularly 6 decigrams of sulpharsphenamin.

The patient is instructed to absolutely refrain from smoking. Kissing, the use of common drinking glasses, towels and toothbrushes are prohibited. A light diet with plenty of orange and lemon juice is recommended.

—*D. M.*

98—Box, Harold Keith, D. D. S., Ph. D.: **Definition and description of necrotic gingivitis,** (Serial). 1st chapter on trench mouth), in: Dent. Survey, pp. 30-32, 76-81. Oct., 1931.

Box suggests the name of Necrotic Gingivitis to be substituted for all the other synonyms pertaining to Vincent's infection. This term best designates the disease because of the absence of positive proof of primary etiologic factors and because our present knowledge of these lesions is based on pathological findings. It is described as an "infectious inflammation of the gingival tissues, exhibiting lesions characteristic as to location and nature and occurring only in mouths where teeth are present. Thirty synonyms of necrotic gingivitis are mentioned." A description of the well-known signs and symptoms are described in considerable detail.

The infection is divided into two classes.

1. Those in which the disease has been established by activation of the microörganisms through the presence in the mouth of all the necessary factors for rapid anerobic growth.

2. Those in which the disease has been established through contagion, i. e., the communication by mediate or immediate contact with virulent microörganisms. A most instructive article and well-worth reading.

—S. S.

99—Clara, —— (Lyon): **Traitement de l'association fuso-spirillaire par l'acide chlorhydrique à 5 %.** Treatment of fusospirillary infection by hydrochloric acid in 5% solution, in: J. de Méd. de Lyon, May 5, 1931; Abs. Sem. dent. xiii(12): 1493. Dec. 13, 1931.

A form of therapy dear to the older American dentist has been used by the author in fuso-spirillary forms of stomatitis. He has had excellent results in 24 to 48 hours. The treatment is totally painless and does not stain. The teeth must not be touched, however, to avoid injury to the enamel.

—*Transl., H. A. R.*

100—Cohen, Sidney, D. D. S.: **Ulceromembranous gingivitis,** in: D. Cosmos., lxxiii(8): 828-829. Aug., 1931 (Corresp.)

This paper is a comment on article by Cobe and Grace in May Cosmos. Dr. Cohen has observed many cases of Vincent's gingivitis and has found that quite often the patient had also gonorrhea,—the Vincent's having developed soon after the gonorrheal infection, and responds to intravenous therapy.

101—Daley, Francis H., D. M. D.: **Vincent's infection: microscopic diagnosis,** in: J. Am. Dent. A., xviii(1): 76-78. Jan., 1931. Abs. Dent. Digest, xxxvii(3): 178-9. Mar., 1931.

The author claims that in order to make a positive diagnosis of Vincent's infection a microscopic examination is necessary. This is because there are other diseases of the oral cavity that resemble Vincent's infection.

The success of the examination depends to a great degree on the smear. If this is thick there is a smudge, and if too thin, a proper diagnosis is impossible.

A case is negative when the slide shows no organisms or only a few. If the organisms are widely scattered, not much importance need be attached to their presence. They are found in normal, healthy mouths, particularly after meals.

A case is potential when the organisms are scattered throughout the field, and, while they may not be in large numbers, yet they give the impression of tending to mass. If the mouth from which the smear is taken gives evidence of poor hygiene, then prophylactic measures are advisable.

When a case is positive, the microscopic picture is unmistakable. The organisms of Vincent's are in practically pure culture.

Patients should not be discharged as cured until clinical symptoms have disappeared and smears are negative. In a short time the organisms may reappear in small numbers.

102—**Dean, Marguerite T., B. S., M. D.** (Dental Sch., Univ. of Tenn.): **Cultural observations of fusospirochetal infections,** in: J. Dent. Res., xi(3): 476-7. June, 1931.

Much diversion of opinion exists as to these organisms although investigators agree on the marked pleomorphism of the bacillus; but the question whether the spirochete is separate and distinct or a phase of the bacillus is still open. The present paper (J. D. Res., xi (5): 759-770, Oct., 1931) is the report of an attempt to correlate the various cultural findings from cases clinically diagnosed as Vincent's infection or Trench Mouth. The author's conclusions are as follows:—

1. The fusospirochetal organisms, constantly found in oral lesions clinically diagnosed as Vincent's infection or trench mouth, represent phases in the life cycle of a higher bacterium or microscopic plant and more than one genus may be encountered from such a source.

2. Strict anaerobiosis, alkalinity, and presence of some body-fluid in the media are required for the optimum cultural environment of this plant.

3. The same pleomorphism of the organisms observed in the original material was also observed in cultures.

4. Motility of vibrios, fusiforms and spirilla is most marked in preparations of material from the native habitat. Further studies of the motility of these forms in cultures are now in progress.

—*Abs. copied, but abridged, H. A. R.*

103—Disraeli, I.: **Make Vincent's disease reportable,** in: Dent. Survey: pp. 44-45. Aug., 1931.

The author thinks Vincent's disease is on the increase although in a less virulent form than fifteen years ago. Acute forms occur in epidemics. It is believed to be communicable being transmitted by eating utensils, kissing, linens.

Transmission can only be prevented by education of the laity. Ten states now have laws making the disease reportable; but such reports are used only for statistical purposes. Quarantine is impractical. A plea is made that the dentists organize for the special purpose of studying, treating and preventing this disease.

—*H. J. L.*

104—**Eller, Joseph Jordan, M. D. and Rein,** Charles Robert, M. D.: **Oral Vincent's infection. A general survey of diagnosis and treatment,** in: J. Am. Dent. A., xviii(12): 2352-2357. Dec., 1931.

Vincent's infection may be defined as an infectious ulceromembranous and sometimes gangrenous disease most frequently found in the mouth and throat.

It is caused by the Vincent symbiosis of a large spirillum and a fusiform bacillus. Symptoms: in the early and mild cases, the gums are slightly swollen with marginal hyperaemia with resultant bleeding on pressure. In advanced cases there are ulcers, considerable pain and a marked fetor exore.

Treatment consists in painting lesions daily with thirty percent emulsion of bismuth tartrate. The patient is instructed to use an aromatized perborate mouth wash every hour during the day. The patients are usually clinically cured in from five to seven days.

—*A. C. H.*

105—Harrell, ———: **The present status of Plaut-Vincent's infection,** in: Archives of Otolaryngology, xiv: 1-8. July, 1931.

Dr. Harrell in reviewing the condition known as Vincent's angina states that the first description of the fusiform bacillus was given by W. D. Miller in 1883 who noted that it would not grow in ordinary culture media. The classic description of the condition was made in the following year by Plaut, who recognized Miller's work by naming the infective agent, Miller's organism. It was not until 1898 that Vincent reported fourteen cases of a special form of angina due to the

fusiform bacillus. The widespread geographic distribution of Vincent's angina is shown by the fact that cases have been reported from all parts of the world though it is more common in the temperate and tropical regions than in the Arctic regions. The differential diagnosis from diphtheria rests on the fact that Vincent's membrane is more localized and is usually bilateral. Smears and cultures from the lesions confirm the clinical differentiation. The lesion of primary syphilis has hard indurated edges and the cervical glands are hard, in contrast to the soft glands in Vincent's disease. It must sometimes be differentiated from acute leukemia. The enormous hypertrophy of the gums and the characteristic blood-picture in the latter condition is the deciding feature. According to Campbell the incubation period of Vincent's disease is three weeks. R. Tunnicliff has shown that the spirochaete precedes the fusiform bacillus in the invasion of the tissues. Albernaz agrees with her that the spirochaetes are the invaders and that the odour of the disease is due to the action of the fusiform bacilli. Fatal cases have been recorded. Jones has reported a fatal case of Vincent's infection with acute yellow atrophy, one of gallstones and one of gastric ulcer. Cases of acute myeloblastic leukaemia with Vincent's angina and of pemphigus associated with Vincent's disease have been reported.

106—Katz, Joseph H.: **The etiology, diagnosis, treatment and prognosis of Vincent's infection,** in: Austral. J. Dent., xxxv(2): 31-36. Feb. 1, 1931.

Vincent's infection, a disease caused by spirochete of Vincent and the bacillus fusiformis, affects the oral tissues. The condition is differentiated from other forms of gingival disease by its peculiar fetid odor, pain, hemorrhage and necrotic mass. The psychic and physical disturbances are also the means of distiguishing the infection from other oral diseases. In order to determine that the disease is Vincent's infection, it is necessary to verify the clinical manifestations by bacteriological and microscopical examinations as to the presence of the organisms.

In treating the disease it is necessary to keep in mind all of the salient points mentioned before. Remember its contagiousness and warn the patient of its dangers. Be sure of a correct diagnosis. The best means of treating Vincent's infection is that system of treatment which gives the best results.

—*(Author's summary and conclusions.)*

107—Kauffmann, J. H.: **Vincent's infection and the toothbrush,** in: D. Cosmos, lxxiii: 930. Sept., 1931. (Corresp.)

Because it is difficult to keep a toothbrush sterile, it becomes a potent carrier of Vincent's infection.

Patients should be instructed to discard their brush as soon as the disease is diagnosed, or even suspected, and some other means of hygienic care instituted.

Toothbrush bristle-points occasionally stab the inflamed soft tissues, and thus carry the infection more deeply, prolonging recovery.

Patients may reinfect themselves by resuming the use of the old brush after a cure has been realized. The safer plan is the use of a new brush when treatment is concluded.

—*R. S. T.*

108—Klein, Jacob, M. D.: **Experimental granuloma induced by infection with b. fusiformis in pure culture,** in: D. Cosmos, lxxiii(9): 884-887. 1931.

This author grew *b. fusiformis*, in pure culture and describes the technic. He finds no evidence to indicate that the spirillum develops from the bacillus as claimed by Tunnicliffe.

Experimental data are given in detail as to the effect of injecting and feeding the pure culture of *b. fusiformis* to five dogs. A control animal was kept.

The conclusion was that there is definite clinical evidence to indicate that *b. fusiformis* is intimately related to agranulocytosis, mononucleosis, and leukemia. The exact nature of relationship is not known and offers a field for research.

109—Lacy, Malcolm B., D. D. S.: **The value of bismuth-violet in the treatment of Vincent's infection and dry socket:** (preliminary report), in: J. Am. Dent. A., xviii(12): 2398-2400. Dec., 1931.

Conclusions:

1. Bismuth-violet, a triphenylmethane dye, has proved of value in the treatment of Vincent's infection.

2. Because of its specificity in the destruc-

tion of the common pathogenic organisms, bismuth-violet has been very effective in the treatment of dry socket.

3. The technic of treating these common infections encountered in dentistry is simple, the removal of infection is rapid and the patient is inconvenienced but little.

Further studies are in progress, the results of which will be published in future papers.

110—Pepper, Dr. Oliver H.: **Leukopenia—a review; with special reference to agranulocytic angina,** in: Cal. & Western Med., xxxv: 82, 173. Aug. and Sept., 1931. Abs., Brit. Dent. J., liii, 1(7): 464-465. April 1, 1932.

"A valuable survey of the subject which brings out the important aspects of the disease very clearly . . . The fact that this disease in its clinical aspects may resemble closely Vincent's angina suggests that it may be necessary for the dental surgeon to take it into account in making a diagnosis of Vincent's infection. The main point in the paper is that the disease is primarily a leukopenia and that the ulcerative symptoms which often attack the mouth and throat first are in reality secondary . . . and represent the invasion by an opportunist flora of a poorly defended area of the body. This explains the likelihood of a local invasion by Vincent's organism . . . The logical conclusion from the standpoint of dentistry . . . is that it would be a wise precaution in all cases of what appears to be ulcerative stomatitis to have a blood count taken . . . In the event of leukopenia being diagnosed, it would be recognized that the condition was one in which the chief responsibility rested on the medical adviser, and that the role of the dental surgeon was ancillary and directed to the treatment of local conditions falling within his ligitimate sphere."

—Review abbreviated (but quoted) from Brit. Dent. Jour.

111—Randall, S. J., D. D. S.: **An attempt to produce Vincent's infection in the white rat,** in: J. Dent. Res., xi(1): 49-50. Feb., 1931.

The author says that a number of attempts to produce Vincent's infection in the white rat lead him to believe that this animal is not susceptible to Vincent's infection when fed on a balanced ration consisting of the following parts per hundred: corn meal (yellow), 70.0; lard, 14.7; dried milk, 7.0; sodium chloride, 0.7; cod-liver oil, 0.6; meat scrap, 7.0.

The result of several carefully conducted experiments convinces him that the Albino rat is not susceptible to Vincent's infection when his physical condition and resistance are greatly lowered on a deficient diet such as Steenboch's rachitic diet. The species immunity to Vincent's infection is shown by kittens on a deficient diet.

—J. C. S.

112—Rochette, Dr. M.: **Stomatite ulcéro-membraneuse aiguë.** Acute ulcero-membranous stomatitis, in: Le Concours Médical, v: 22-31. 1931.

This is nothing other than the localization of Vincent's infection in the mouth. It would be an exaggeration to call it an accident of the eruption of the wisdom tooth, which is the one most frequently responsible, but not the only one. It occurs without or with tooth eruption; in the course of an infective illness; as complication of toxic stomatitis (Bi or Hg); in uremics or diabetics. It may invade the sides of the tongue, the palate or velum, or the tonsils. The submaxillary ganglions are inflamed or painful; the patient has difficulty in swallowing, insalivation, fetid breath; he may have fever, insomnia, anorexia, or even diarrhea.

Each one of the ulcerations should be sterilized. Alkaline lavage of the mouth may be helpful. Author recommends cleansing with following solution: novarsenobenzol 8%, resorcin 4%, glycerine 68%, aq. dest. 20%.

These dressings should be made once or twice daily by the dentist himself and not entrusted to patient or his family. Intravenous injection of novarsenobenzol as a rule is ineffective. Chlorate of soda (2 grams per diem) may be advised. Light diet, water drinking, diuretics, etc.

Even when correctly treated, fusospirillary stomatitis lasts for 15 to 18 days.

—Transl., H. A. R.

113—Rosenbaum, Harold A.: **Treatment of Vincent's infection and stomatitis,** in: Illinois Med. J.: May, 1931. Abs. J. Am. Dent. A., xviii(9): 1833. Sept., 1931.

Seven cases reported in children from 1½ to 8 years. All were treated with *stovarsol* with good results. In cases with fever, fall

of temperature to normal in 24 hours occurred with relief from pain. The children ate again without being forced to do so. Subjective improvement sometimes preceded objective. The use of *stovarsol* in adult cases is suggested.

—*Copy.*

114—Smith, Arthur E., M. D., D. D. S.: **Vincent's infection.** (Sub head in article: "Oral lesions—their diagnosis and relation to the physician and the dentist," in: J. Am. Dent. A., xviii (6): 1091-2. June, 1931.

In pyorrhea alveolaris, when staphylococci and streptococci are present, pus can be pressed from the pockets; but in Vincent's infection, the tissues disintegrate rapidly and usually without pus. The virulency and rapidity of this infection and tissue destruction cause severe pain in the gums, alveolar process and teeth, making mastication of food unbearable. The infection may extend to the lips and produce an ulcer, or it may involve the tonsils and pharynx.

The predisposing factors to this disease are filthy mouths, inflamed gums, syphilis, decayed and broken teeth and bad dentistry, causing irritation. Excessive smoking, causing inflammation of the oral mucous membrane, may be a vital etiologic factor. Vincent's infection must be differentiated from tuberculous gingivitis, syphilis, leukoplakia, malignancy, pyorrhea complicated with inflammatory reaction, diphtheria and various forms of stomatitis and periodontoclasia.

During the World War, various groups of soldiers were infected, which proved rapid spreading by contact. It was more prevalent among the soldiers confined in the trenches. This disease has become so prevalent and the number of cases is so greatly on the increase that it should be placed among the reportable diseases and preventive measures should be inaugurated. Vincent's infection may be the primary cause of digestive and stomach disorders and anemia. If not arrested, a mixed infection of extreme virulency may result, ending in gangrenous stomatitis, noma, septicemia, etc. This disease should never be treated without the use of rubber gloves and strict observance of aseptic measures. All instruments should be sterilized by boiling. All receptacles, cotton swabs, gauze and towels should be burned or thoroughly sterilized, to prevent the infection of others.

This disease can be acute, subacute, or chronic. With the chronic type, there are many innocent carriers. After sufficient treatment, it may recur, owing to retention of the typical spirillum in the tonsila or isolated pocket. Microscopic examinations should be made of smears taken from suspicious mouth lesions at frequent intervals after apparent eradication by efficient treatment, to prove definitely that there is no recurrence of the infection. The frequency of attacks on the tonsils and oral tissues by this disease should be borne in mind by the physician and the dentist. This disease is one of the greatest problems concerning dentistry today, and its prevention and the education of the public regarding it as a serious and vital duty confronting every practitioner.

—*Extract.*

115—Sol, A.: **Stomatites nécrosantes á fuso-spirilles.** Necrotic fusospirillary stomatitis, in: La Presse Méd.: p. 1108. July 22, 1931.

This is a study by the author of three personally observed cases showing a necrotic gingivo-dental process,—a true acute expulsive gingivitis. This is apparently due to the fuso-spirillary symbiosis. After a review of the various etiologic factors of these lesions, in which he dwells upon their cause,—the microbic flora in which the fuso-spirillary symbiosis predominates,—the author describes the essential features of the disease; the evolution of these varying forms of stomatitis, their diverse clinical forms and their principal local complications such as phlegmons, maxillary necroses, etc.,) and general (chronic septicaemia). He stresses the importance of the radiologic examination, which shows early decalcification and finally, alveolar resorptions.

The treatment is at the same time surgical (extraction, dental fillings, etc.), and medical (methylen-blue and novarseno-benzol).

—*Transl from article, H. A. R.*

116—Thompson, A. J., D. D. S.: **Vincent's infection,** in: J. Am. Dent. A., xviii (8): 1405-1408. Aug., 1931.

Few dentists realize or understand the serious nature of the disease, as is clearly shown by the fact that teeth are constantly being extracted when there is a virulent case of Vincent's infection existing in the mouth, sometimes with fatal results.

A minute description of both the acute and chronic forms of the disease is given, along with the advice that a full understanding and coöperation of the patient is necessary for his recovery.

In the diagnosis and treatment of this disease, the microscope is absolutely necessary. In the author's opinion there is no specific or unfailing remedy for all cases. No extractions or surgery should be attempted in the presence of Vincent's.

He mentions the ultra-violet ray, neoarsphenamin, 7 percent solution of chromic acid, 50 percent solution of hydrogen peroxide, hexylresorcinol, silver nitrate, etc. He then mentions a favorite and old reliable Talbot's solution. It is germicidal, penetrating, healing and soothing. The formula is well known: zinc iodid, 20 parts tincture of iodin, 20; distilled water, 10; glycerine, 50.

—*S. R.*

117—Tishler, Benjamin, D. M. D.: **Preventive periodontia:** The control of Vincent's infection, in: D. Cosmos. lxxiii(4): 374-7. Apr., 1931. Abs. D. Digest, xxxvii(6): 401. June, 1931.

"In the majority of cases the etiology of Vincent's infection is purely local, though systemic symptoms may develop in many instances. Consequently the treatment should be considered from this viewpoint.

The difference between health and disease is a question of resistance and infection of the gingival cells will result only when the normal protoplasmic tone is sufficiently lowered.

The use of medicaments alone is sometimes insufficient to check Vincent's infection because, although the bacterial activity may be checked, the cells are still exposed to recurrent attacks.

While it is generally admitted that excessive smoking is a factor in the lowering of resistance, yet the statement that the resistance of the gingival cells of women is poorer than that of men cannot be proved. The variation in resistance is present as between individuals, but not as between the sexes.

One of the most important causes in the failure to control Vincent's infection is the presence of unsuspected pockets, and in many cases the tissues heal immediately after these foci have been treated. This is especially true in young patients.

—*Copy.*

118—Wheeler, J. H., D. D. S.: **Irrigation in the treatment of Vincent's disease,** in: Bull. Virginia St. D. A., vii(3): 80-83. Apr., 1931.

After a general review of this familiar subject the author describes in detail his own method of treatment. From the large number of articles in the literature referring to a recurrence of the disease after treatment, his own experience has led him to conclude that the infection had not returned but had merely been carried over, owing to incomplete eradication. Hence he has adopted the plan of irrigating with a syringe and blunt curved needle all interdental spaces, mucous folds, etc., not having had a reinfection since. A Leuer syringe fitted with a curved lachrymal duct canula seems to him to meet all requirements, Neutral acriflavine, a non-irritating yellow dye is almost specific for this disease. For home treatment frequent rinsing with hexylresorcinol or a saturated solution of sodium perborate is indicated. Toothbrushes should not be used until after cure and then only new ones.

The emphasis in this treatment is laid upon irrigation, not on a medicament except that it should be unirritating. Hydrogen dioxide, chromic acid, etc., are contra-indicated. The author believes that plenty of inflammation is already present without resorting to caustics of any type. By use of this method pain is controlled within 24 hours.

—*Abs., H. A. R.*

119—Zemsky, James L., D. D. S.: **Ulcerative stomatitis, its diagnosis and treatment,** in: Dent. Digest, xxxviii(3): 147-154. Mar., 1931.

The writer calls attention to the microorganisms concerned in the etiology of Vincent's infection and emphasizes the fact that they are of anaerobic variety, which must be kept in mind in considering the treatment of the lesions. The treatment of infectious diseases caused by the anaerobic type of bacteria differs from that caused by those of the aerobic type. The clinical picture of Vincent's infection varies considerably depending upon the stage of infection, i. e., whether it is acute, sub-acute or chronic. There are other forms of stomatitis in which Vincent's organisms are observed. A large number of mouths have no definite lesions and yet Vincent's organisms are demonstrable. Any case in which spirochete and fusiform bacteria are present should be treated as if it were

Vincent's infection. It is essential in considering the treatment that the therapeutic agent will supply free oxygen to the breeding places of microörganisms. Chromic acid, hydrogen peroxide, potassium permanganate and sodium perborate are oxidizing agents that are valuable. He mentions sodium perborate as probably giving the best results as the oxygen produced is neither strong enough nor rapid enough in its action to injure the tissues. He then calls attention to the subsequent treatment which consists in drying the teeth, tongue and mucous membrane; all sloughed tissues are removed, the interproximal spaces washed with hydrogen peroxide and the ulcerated surfaces are isolated and painted with Churchill's tincture of iodine followed by 20% silver nitrate solution.

—*J. C. S.*

(i) Miscellaneous

(Continued from July, 1932, page 175)

39—Alexander, S., D. D. S.: **Dentistry, specialists and pyorrhea,** in: Dent. Outlook, xviii(11): 515-518. Nov., 1931.

The author believes that the practice of periodontia "embraces everything there is" in dentistry. Every dental operation either prevents or promotes pyorrhea. Specialists have often pointed this out but the profession at large has given scant attention to the supporting tissues. The province of the specialist in periodontoclasia is to lead, consult and teach; while the prevention and treatment of pyorrhea alveolaris lies definitely within the scope of the general practitioner.

—*Abs., H. A. R.*

40—Best, Elmer S., D. D. S.: **Pyorrhea and artificial teeth,** in: The Journal-Lancet, li(23), 724-725, Dec. 1, 1931.

Dental caries and pyorrhea are the two most prevalent diseases of the mouth. In pyorrhea, the teeth are not affected but a disintegration of the supporting tissues is going on which may continue after extraction as a factor in the loosening of artificial dentures.

Coöperation of the dentist and physician is required. In too many cases pyorrhea is passed over, and little more is done than the extraction of teeth; while the fact is not recognized that the mouth condition is only local evidence of a general condition needing treatment by the physician.

—*H. A. R.*

41—Box, Harold K., D. D. S., Ph. D.: **Traumatic occlusion and traumagenic occlusion,** in: Oral Health, xx. Dec., 1930.

It is argued that the term "traumatic occlusion" as generally used, is incorrect, since it means when correctly interpreted, "a contact relation of the masticatory surfaces of the teeth which is directly the result of trauma." This definition it will be observed, is at complete variance with that commonly understood by the term. Traumagenic occlusion on the other hand, is defined as "an occlusion which, under biting pressure, produces an injury in the periodontal tissue," a condition usually ascribed to traumatic occlusion, and which, according to Box, is incorrect.

—*A. H. M.*

42—Cohen, Joseph T., D. D. S.: **Incidence of gingivitis in sick children,** in: J. D. Res., Scientific Proc. 9th General Meeting I. A. D. R. Abs. no. 8, p. 462. 1931.

Some interesting data on the possible cause of gingivitis in children were secured by keeping an accurate record of mouth conditions of all children admitted to dentistry at the University of Minnesota Hospital. There were 296 sick children in this group, almost all of whom were bed patients. Of these children, 69, or about 23 per cent had gingivitis. At a later examination of over 300 average healthy children, gingivitis was noted in less than ten per cent. Therefore, inflammation of the gums might indicate a general systemic disturbance. 63, or about 20 per cent were diabetics; and almost 15 percent had gingivitis. Diabetics, it would appear, have pathological gum conditions, but are less susceptible to gingivitis than other sick childen. This fact is interesting because diabetics are presumed to have poor gums. The children that had gastro-intestinal disturbances numbered 38, and composed about 15 percent of all examined. Inflamed gum was more frequent in these children than in any other group. Gingivitis was present in 42 percent of the mouths, which is about twice as frequent as in the average group of sick children. Congenital luetics and children suffering from mastoid disease, each composed about 5 percent of the group studied. Pathological gum conditions seemed to be present in their mouths about as frequently as in the average sick child. The

remainder, or about 55 per cent of the children, were placed in a group called "miscellaneous sick children." The frequency of gingivitis in this group was found to be about the same as in the average group of sick children.

A table follows, from which the following conclusions are drawn:—

(1) Children with gastro-intestinal disturbances showed inflamed gums in almost 50 percent of the cases. This condition of the gums is found about twice as frequently in this group as in any other of sick children.

(2) Diabetics had more gingivitis than healthy children, but less than the average sick child.

(3) Inflamed gums were found more frequently in sick children than in well children. Therefore, if gingivitis is present in a child's mouth the general condition of that child should be thoroughly examined to find, if possible, the cause for the mouth condition.

—*Copy.*

43—Dixon, Maxwell Merton, D. D. S.: **The duty of the periodontist to his patients,** in: J. Am. Dent. A., xviii(10): 1954-1961. Oct., 1931.

The duty of a dentist is to educate his patient as well as to treat diseased conditions, and to explain the condition of the patient's mouth in language comprehensible to him.

It is the duty of a dentist to refer his patients to a competent specialist in periodontia if he, himself, is not capable of doing the work necessary. It is the obligation of the periodontist to see that restorative work necessary for the patient is done competently. The dentist must not be misled by the word "ethics" into allowing faulty restorations made for his patient.

Coöperation between dentist, periodontist and physician is urged.

—*W. Y.*

44—Eskes, T. J., Dr. med. et Med. Dent. (Bandoeng, Java): **Zahnärztliche Beobachtungen ueber Paradentose in Java.** Observations of a dentist in Java, concerning paradentosis, in: Z. Rdsch., xl(36): 1597-1598. 1931.

The author has worked for six years in Netherlandic India and observed the dentition of the people of this great archipelago. As appears to be the case also in Western Asia, paradentoses and paradentides are found in not less than 50% of the cases examined. The disease is far more early here than in Europe, occurring in very young individuals; it is serious in character and more common. Equilibrium of the articulation does not protect against paradentosis.

The author believes that the diet of the natives is of great significance; but there must be another factor, since in the Indo-Europeans, who, though of mixed breeds, show the same native type of teeth, but whose diet is not the same, paradentosis is also common.

The one-sided rice diet makes little or no demand upon the teeth; hence the tartar deposition is extraordinary and often takes grotesque forms. The notion of betel nut ("sirih-sirih") chewing as a factor must be guarded against. In the author's material it plays no part whatever, no more than vitamin deficiency. The author believes the important factor to be the evolutionary one—in civilization no use for teeth; they simply become "practically superfluous."

—*Transl. from art., H. A. R.*

45—Fox, H.: **Lichen planus confined to mouth,** in: Archives of Derm. and Syphil. Dec., 1931. Abs. J. Am. M. A., xcviii: 672. Feb. 21, 1932.

From his close observation and tabulation, Fox concludes that Lichen Planus confined to the mouth is more frequent than generally supposed; that the clinical differentiation from leukoplakia is usually possible, that the disease may persist for years and that treatment is unsatisfactory.

Of the 10 cases of Lichen Planus in Fox's report—4 were men and 6 women with average age 44 to 46 years. Eruption involved mucosa of cheeks in every case and in 6, the tongue as well. Five patients gave subjective symptoms. Four smoked. Teeth in general were good. Four had history of gastro-intestinal disorders. No history of syphilis and in 5 cases Wasserman was negative. Histologic examination confirmed diagnosis in 4 or 5 cases. Treatment was not satisfactory generally although improvement in some cases followed treatment with arsenicals and mercurials.

—*C. R.*

46—Glaser, Herta: **Die Entwicklung des Paradentoseproblems in Frankreich.** The development of the problem of paradentosis in France, in: D. M. f. Z., xlix(2): 51-65. Jan. 15, 1931.

Gornouec is quoted as saying: "To call a disease by the name of one of its symptoms, and that an inconstant one is a defiance to reason, logic and good sense."

—*Transl., H. A. R.*

47—Gray, William A., D. D. S.: **Periodontia,** in: Oral Health, xxi: 93-94. Feb., 1931.

The author emphasizes the inter-relationship of the dental and periodontal tissues to the body as a whole. He brings out the importance of the bacterial growth on the teeth, the dental operations leading to death of the pulp, and the reconstructive procedures interfering with masticatory function, on the health of the individual. He outlines his methods of treating periodontal disease as first, a plain thorough scaling of teeth and putting patient on efficient care of the mouth; second, he uses a cauterizing medicament for diseased and loose tissue, followed by surgical resection when necessary.

Acute Vincent's infection is treated medicinally before instrumental procedures are started. Anemia, diabetes, and other debilitating systemic diseases interfere with the response to periodontal treatment. He urges that medical students be trained in the diagnosis of oral conditions and that dental students be brought into contact with systemic disease by means of bedside training under competent physicians.

—*H. J. L.*

48—Guéricolas, Mlle. ——: **Rapport sur le fonctionnement du service de pyorrhée à l'École odontotechnique.** Report on the pyorrhea service at the odontotechnic School, in: Rev. Odont., lii: 27-40. Jan., 1931.

This service was started in 1923 designed for the use of pyorrheics. From the etiologic and pathogenic point of view, there appear two indispensable therapeutic indications; general and local treatment are both necessary. The first does not devolve upon the clinic; as to the second, no method of treatment seems to have been ignored or neglected; vaccine, chemical, pulverization ($AgNO_3$), arsenical, mechanical (tartar removal), surgical, electric, diathermic, etc., all these have been used and the results carefully observed.

The large number of cases and the numerous varieties of pyorrhea which have presented themselves seem classifiable only by their external manifestations; hence the difficulty of establishing a really rational treatment for each particular case. Further, the patients who seek hospital service are in general carriers of old infections and often present pathologic conditions more or less unfavorable in the midst of which dental intervention is unavoidable. In spite of all, the results obtained are encouraging and permit the statement that the conditions of the patients have been ameliorated as well as their general conditions and masticatory functions improved, and a certain number of cures have been effected.

—*Transl.*

49—Haggett, E. W., B. D. S., D. D. Sc. (Australia): **Dental research.** (See "Pyorrhea" p. 625 of article.), in: Dent. J. of Austral., iii(2): 623-628. Nov., 1931.

This article outlines briefly the need of dental research from the viewpoint of the general practitioner. Immediate results may be lacking; but some dental problems will be solved only by science. Pyorrhea presents a field of investigation in itself. The rest of the article is merely a special plea for raising a fund sufficient to employ a resident research worker.

—*H. A. R.*

50—Hazen, H. H., M. D.: **Injuries resulting from irradiation in beauty shops,** in: Am. J. Roentgenology. Abs. Dominion Dent. J., xliii(1): 42-43. Jan., 1931.

Five cases are reported, the first of which showed marked atrophy of the gum beneath the upper lip for about one quarter inch, while the others all showed marked atrophy and retraction of the gums of both upper and lower jaws.

All five gave a history of deep seated, aching pains in the jaws during treatments which lasted from one to several hours after treatment; in the fifth case the pain was present more than a year after treatment had ceased.

In ten more patients examined, seven showed marked gingival atrophy. A case recently filed for damages in the courts of Dist. of

Columbia, "the change is striking. The entire gum underlying the exposed area is noticeably thinned and atrophic, the roots of the teeth to the apices show through the mucous membrane. Apparently there is some resorbtion of the gingival portion of the jawbone as well.

"One can only marvel at the stupidity of the operators or the fortitude and ignorance of the patients."

56—Heyninx, Dr. Albert (Belgium): **Paradentosis and carcinoma,** in: Vrtljhrsschr. f. Zhkde, xlvii(12): 1238-9. 1931. Transl. from article of Julius Citron.

A Belgian investigator, Heyninx, has shown some time ago that almost all cases of carcinoma of the upper respiratory passages have a suppurative paradentosis. From this he tries to prove that the carcinoma is a result of the paradentosis, since the causes which give rise to the gingival pus pockets in his opinion take their start here.

Without further proof this far-reaching theory can certainly not be accepted; but the fact itself is worthy of note, that circumstances which accompany a severe disturbance of metabolism also bring about a paradentosis.

—Transl. from article of Julius Citron,
H. A. R.

57—Hill, Dr. Thos. J.: **Investigation of spirochaetosis of the dental anlage in congenital syphilis,** in: Am. J. Path., vii: 515-17. Sept., 1931.

Earlier papers on this subject written by Cavallaro, Stein, Pasini. To settle this vexed question Hill examined nine full-term fetuses with congenital syphilis. He found spirochaetae in the liver of six fetuses. 150 slides of the enamel organs gave negative results.

58—Hirschfeld, Isador, D. D. S.: **Diagrammatic recording of periodontal diseases,** in: J. Am. Dent. A., xviii: 1927. Oct., 1931.

A plea is made for the making of more reliable examination records of the teeth and periodontium to include radiograms, photographs, casts and record charts, the last of which is regarded as the most important.

A diagrammatic chart having 53 symbols is shown, the advantages of which are enumerated as follows: 1st, ease with which the symbols can be noted and read; 2nd, a more detailed case history, and 3rd, makes periodontic service more thorough and scientific and provides data for research should it be needed. Several examples of how the chart is of assistance in daily practice are shown in cases of cervical hypersensitiveness, pocket development, etc., followed by a detailed description of each of the 53 symbols used in the chart. If it should seem to be too complicated for the average practitioner he should read an article on "Procedures in examination for periodontoclasia" by Grace Rogers Spalding, J. A. D. A. Aug., 1931, p. 1484, in which it is said in the opening paragraph that the article has been written "to stimulate an interest in those measures which are essential to a satisfactory examination for periodontoclasia and to present a plea for their simplification."

—A. H. M.

59—Kritchevsky, Bernard (Paris): **Quelques prévisions sur l'antagonisme de la carie et de l'alvéolyse.** Antagonism between caries and alveolysis, in: Thése de Paris. 1931. Sem. Dent., xiv: 637. 1932.

Out of seventy-five cases studied by the author, 17 had pyorrhea with no caries, 17 had pyorrhea with only one instance of caries; 13 had pyorrhea with two instances of caries. In the other cases, caries appeared to decrease as pyorrhea diminished.

—Transl.

60—Lang, F. J. (Innsbruck): **Paradentose oder paradentitis?,** in: Zahnä. Rdsch., xl(39): 1720-22. 1931.

The oft-repeated demand for a substitute for the term "alveolar pyorrhea" led this prominent authority to the use of the name "marginal paradentitis." This expresses that the so-called alveolar pyorrhea consists in an inflammation of the tooth supporting apparatus, also the tissues grouped under the name "paradentium" and passes over into a rarefying ostitis which takes its start from the gingival margin. The expression "paradentosis" is unsuitable on this account,—that the ending -osis in general pathology is used only to express that a disease in question is not an inflammation but a degenerative change, a regressive process. Under all circumstances the so-called pyorrhea alveolaris is a chronic (exudative and almost always rarefying) inflammation of the paradentium, thus justi-

fying the term paradentitis. How far we have to deal with allergic expression, future researches must show. The fact of the inflammatory nature of alveolar pyorrhea is not only concerned in the explanation of the clinical picture but is also of importance in treatment.

—*Transl.*

61—Mowry, D. R., D. D. S.: **Periodontal aphorisms,** in: Oral Health, xxi(2): 88-92. Feb., 1931.

"No arts are without their precepts." Periodontal aphorisms is a collection of pithy precepts that should be read by every general practitioner. A few of the terse maxims follow:

Let us remember the function of the teeth for nature abhors the useless. There should be no stress on the anterior teeth in the mastication of food.

The inclined planes of childhood should bear an inverse ratio to the age of the patient, thus reducing bucco-lingual stress.

No tooth or teeth should interfere with the freedom of the oscillating movement of the mandible.

The contact point is a fact, not a theory.

The carbon paper is an excellent "pathfinder."

Teeth are ground to harmonize the dentition with the age of the patient.

The gingival third of a tooth should be cleaned by hand instrumentation, not by a brush in the engine hand-piece.

Consider the stratified squamous epithelium of the gingivae, its prominent free margin at the dento-enamel junction, its many layers of cells and the long papillae of underlying connective tissue; these all suggest function.

There is no health without circulation.

The oral mucosa, the mucous membrane of the tongue and the enamel are the neighbors of the gingivae.

There is no cure of "disease of the gums" without clean teeth, that is, teeth clean to the base of the gingival crevice.

The prevention of periodontoclasia is in the hands of the general practitioner.

If you cannot succeed in removing the pus flow from a pyorrhea pocket, remove the pocket by excising the free gingiva.

Why be afraid to operate when you know the tissues heal after extraction.

Nearly every case requires these three articles: articulating paper, mounted stones and sandpaper disks.

—*J. C. S.*

62—Nord, Ch. (The Hague): **The nomenclature of so-called pyorrhea alveolaris,** in: Proc. viiith Int. Dent. Cong. Sect. IV, p. 6. 1931. D. Cosmos, lxxiv(2): 200. Feb., 1932.

Proposed changes in the international terminology of so-called pyorrhea alveolaris.

(1) Gingivitis marginalis suppurative:

Superficial inflammation with pus at the gingival margin.

Local findings—tartar, pus, no definite pockets.

(2) Paradentosis:

(a) Paradentitis profunda (supp.) simplex. Local findings—deepening of pockets and pus, no loosening.

(b) Dystrophia diffusa. Local findings—irregular atrophy, migration or loosening, no pus.

(c) Paradentitis dystrophicans complicata. Local findings—deepening of pockets, pus, eventually loosening and migration, or both.

In the latest stage (a), (b) and (c) all tend to merge into the same picture: severe loosening, deepening of pockets, pus.

(3) Alveolar atrophy:

(a) Atrophia precox. Local findings—early retraction of the gingival margins and regular horizontal atrophy of bone.

(b) Atrophia senilis—the same findings at more advanced age.

—*Copy.*

63—Weichardt, Wolfgang (Erlangen): **Ueber die Verwendung von Kaugummi zur Desinfektion der Mundhöhle.** Use of chewing gum for disinfection of the oral cavity, in: Klin. Wschr., viii(8): 362. Feb. 19, 1929. Med. Welt, iii(51): 1837. 1929. Abs., Fortschr. d. Zhkde, vi(2): 748-749.

Silargel (a colloid silver chloride—silicic acid preparation) was combined by the author with chewing gum; and by long chewing, an appreciable lessening of the germs normally present in the mouth was effected. This treatment was especially favorable in its influence upon the hemolytic streptococci which disappeared after repeated chewing of the silargel gum in a short time.

—*Transl. from abs., H. A. R.*

1932

(a) Periodontal Histo-pathology

(Continued from page 120)

127—Adrion, Prof. Dr. W. (Berlin): **Gewebsveränderungen in der Zugzone des Paradentiums unter traumatischem Einfluss.** Tissue changes in the tension zone of the paradentium under the influence of trauma, in: Paradentium, iv(5): 135-137. 1932.

These alterations give an interesting glimpse into the biology of the cementum, pericementum and bone. Traumatic accidents arise by extraordinary functional demands upon the intact retention apparatus. They may arise also in a retention apparatus already damaged. If functioning pericementum fibers make heightened claims a compensatory fibrous hypertrophy may develop and from this, there is possibility of cemental tears. These usually result at the dentino cemental boundary, if there is an injury to the suspension apparatus. Cemental tears may result either inside or outside of the cemental boundary.

Torn parts of the root surface strive to keep their normal functional relation to the bone. They may, however, under the influence of function become extensively dislocated. The healing process is analogous to that in bone fracture elsewhere.

The author presents four pictures accompanied by case histories and description of the histological appearances.

—*Transl., H. A. R.*

128—Agnew, R. Gordon, B. A., D. D. S.: (University of Vienna, Vienna, Austria, and University of Toronto, Toronto, Canada): **Microscopic studies of paradental tissues,** in: J. Dent. Res., xii(3): 442-443. June, 1932.

The term, denticles or pulp stones, refers to calcification in the pulp. Calcifications in the periodontal membrane are covered in the general term, "cementicles." Some cementicles originate from nuclei consisting of necrotic connective tissue elements. Others again, from the epithelial cells in the periodontal membrane. About these calcific masses of cementum may be built up and described interstitial cementicles. Again, sundry calcifications are frequently encountered in the gingival tissues. Recent investigations along these lines report an unusual type of calcification in the paradental tissues. Lesions have been found in the periodontal membrane, the gingival tissue, the adjacent bony tissue and in intimate relation with the bone trabeculae. A lesion in the soft tissues appears as a mass of degenerating tissue surrounded by a peripheral zone. A later development—the entire mass assumes the character of an inert calcic formation. It is interesting to note the areas showing bodies which appear incorporated in the bone trabeculae of the alveolar process and of the supporting bone. Again, a specimen shows some bone involvement, also large areas of epithelial cells, some of which have undergone proliferation. In the proliferated zones histologic evidence is given us of the process of calcification. The nomenclature relative to calcification in the paradental tissues is not satisfactory. It is suggested, therefore, that this terminology be revised; that the term "cementicle" be changed, owing to its restricted scope and a nomenclature based on a correlation of structure and function be developed.

—*J. C. S.*

129—Bauchwitz, Max: **Veränderungen der Zahnpulpa und des Paradentiums bei Paradentose.** Changes in dental pulp and paradentium in paradentosis, in: Zahnä. Rdsch., xli: 430-438(11). 1932.

In regard to changes in the periodontium, the author cites Römer as saying that these changes begin with the small cell infiltration at the tooth neck. The epithelial processes of the ligament lengthen, proliferate and grow into the connective tissue of the periodontium and the newly formed granulation tissue, and detach the periodontal membrane from the tooth root. This blind pocket grows downward while the change of the connective tissue into granulation tissue advances.

This is confirmed by many of the author's own series of observations, especially in the cases where calculary subgingival deposits are the direct cause of the paradentosis. The constant irritation of the ligament by the calculus causes connective tissue hyperplasia. The connective tissue proliferation activates the outer epithelial layer which is most sensi-

tive to irritation, as well as the remains of the embryonal epithelial sheath of the tooth germ, which lies scattered in the periodontium as small epithelial nests, and start proliferation here. Simultaneously, the irritation of the calculus, with the added activity of the bacteria present, induces a diapedesis of leucocytes from the blood vessels and their collection near the seat of the lesion. The proliferated connective tissue cells form no definable tissue but mingle with the leuco- and lymphocytes; while the connective tissue ground-substance at this point is destroyed and dissolved in pus. From this pus, according to Arkövy and others, lime salts are precipitated which cover the root as calculus, and in turn cause constant irritation of the diseased periodontium.

The form beginning at the gingival margin and gradually extending deeper results in an irritation affecting the entire periodontium. The simplest explanation would be perhaps a serous saturation of the periodontal tissues starting from the pulp atrophied by edema due to stasis. Now if this periodontal serous saturation is taken for granted, a loosening of the tooth in the socket naturally must result.

Whether the vascular stasis of the pulp is the cause of periodontal disease, or whether both arise from a common cause, extirpation of the pulp must have a healing action on the diseased periodontium. Landsberger has shown that after death or removal of the pulp, an evident proliferation of the vessels of the periodontium occurs. From this point of view, resorption of the alveolar bone appears, not as a defense reaction of the body, but rather as an effort to remove the pulpless tooth as a foreign body.

How then, does the alveolar atrophy proceed? Pathologic anatomy distinguishes three different kinds of bone atrophy.

1. Lacunar resorption by osteoclasts or giant cells; this form is never found in periodontoclasia.

2. Resorption by formation of perforating canaliculi.

3. Bone atrophy, after a preliminary decalcification of bone, i. e., halisteresis.

To ascribe the primary role to the bone appears incorrect, since after extraction complete healing occurs, proving that the other causes are the ones responsible.

—*Transl., H. A. R.*

130—Bohres, Dr. Hildegard (Münster): **Eine patho-histologische Studie zur Paradontitis (Alveolarpyorrhöe).** A histo-pathological study of alveolar pyorrhea, in: Dtsch. z. Wchnschr., (xxxv): 687-702. 1932.

Histologic relations in the sound and diseased paradentium were studied by this author on cadaveric material. These were compared with the findings reported in the literature. Attention was directed especially to the epithelial attachment in bone deposition and resorption as well as cemental and periosteal relations. The findings are summarized somewhat as follows:—

1. The enamel cuticle was demonstrable only in a few preparations and only in interdental spaces.

2. The epithelium varied widely in different sections of the same tooth, and could only rarely be seen at the amelo-cemental junction.

3. In teeth macroscopically sound or diseased, epithelial defects and infiltrations could always be seen in the sub-epithelial tissue.

4. Hornification of the mouth epithelium was present in only two cases stained with hematoxylin-eosin.

5. Bone deposition and resorption results from the functioning of the teeth. The mesial resorption and distal deposition is usual but in abnormal functioning the pictures vary widely.

6. The author rejects an osteolysis in the jaw bone in parodontitis according to the findings.

7. In cases observed the septum shows prominent resorption toward the limbus alveolaris.

8. The findings of this author confirm the opinions of Gottlieb and his disciples as to the width of the periodontal space, less in non-functioning teeth.

9. In most cases the periosteum on the distal side was broader than on the mesial. In two cases cementicles were observed in the periodontium.

10. In frozen sections elastic fibres were found in the periosteum although most authors deny their existence.

11. In her preparations the author could establish a wider cement deposition on the roots of teeth without antagonists than in teeth with antagonist, which might be re-

garded as compensation for deep lacunae in the adjacent bone.

On the basis of her findings, the author refers the origin of parodontitis to small epithelial defects, as they occur in all mouths after feeding. The organism can act upon these minor defects in different ways. Either a slight inflammation may be caused or when the local resistance is depressed, the process sinks in deeper and causes loosening of the teeth, the final stage of parodontitis.

—*Transl.*

131—Bruszt, Dr. Paul (Baja, Hungary): **Ueber die netzartige Anordnung des paradentalen Epithels.** The reticular arrangement of the paradental epithelium, in: Z. Stomat., xxx(11): 679-682. 1932.

In general the epithelial cells in the paradental connective tissue are present only in isolated groups and nests. Fischer has observed the reticular formation in teeth of cats and sheep, but has not to the author's knowledge reported it in human teeth. Rywkind shows sections of the paradentium of a human molar in which the epithelial cells appear to be arranged in reticular tracts, but offers no explanation. Dr. Bruszt shows sections from the incisor of a 19-year-old individual in which are seen tracts of epithelial cells partly connected by lateral processes, also sections from other teeth in another case of 19 years. But this reticular arrangement is found not only in young individuals, for sections are shown from a patient of 58 years. Whether this occurs regularly or only in exceptional cases cannot be decided with certainty; but that it does occur in human teeth is shown by the above findings.

—*Transl.*

132—Duperroy, ——— (Bruxelles): **Influence de l'activité ovarienne sur le périodonte.** Influence of ovarian function on the periodontium, in: J. Dent. Belge, xxiii: 189. 1932.

The author points out the close relationship between the reproductive and the tooth systems. Especially is this true of the natural function of the utero-ovarian system on the periodontium of the tooth. During menstruation for example inflammations in the periodontium of medicinally treated teeth manifest themselves much more noticeably than in the interval. On one hand a physiologic, on the other a pathologic process is to be dealt with; and for the latter the author holds the increased blood supply to both organs responsible.

—*Transl.*

133—Fischer, Guido (Hamburg): **Über die Bedeutung des Epithels im periodontalen Raum menschlicher und tierischer Zähne,** in: Vrtlihrsschr. f. Z., xlviii(4): 413-425. 1932.

Authors summary.

1. The periosteum of human teeth normally contains remains of Hertwig's epithelial sheath, the so-called remains of Malassez.

2. The reticular arrangement usual in animals (herbivora) is rare in man. It is apparently dependent on constitutional factors.

3. The epithelial sheath has a definite influence on root formation and is present at the period of eruption in greater extent than later.

4. The epithelial rests are usually met with (1) at the apical foramen; (2) at the dental cervices; (3) at the bifurcation of multirooted teeth.

5. As a rule, the epithelial rests arise only from the outer germinal layer of the epithelial sheath. If the two cellular layers—outer and inner epithelial groups are separated, formation of enamel pearls may occur. The simple rests of Malassez share in the epithelization of the dental cyst.

6. The apical foramen is formed through the periodontium. Thus epithelial rests may be carried into the deeper parts of the pulp.

7. The conductivity of the periosteum at the apical foramen is persistently retained after destruction of the pulp.

8. The periosteum with proliferated, firm connective tissue, and a pyogenic ("abscess") membrane at the apical foramen, may penetrate deeply into the necrotic canal, and lay down deposits of secondary cement or bone.

—*Transl.*

134—Hayashi, Satao (Univ. of Berlin): **Untersuchungen ueber die arterielle Blutversorgung des Periodontiums.** Researches on the blood supply of the periodontiums, in: D. M. f. Z., l(4): 145-179. Feb. 15, 1932.

135—Higaki, Rinso, Dr. med. (Vienna): **Besondere Befunde von Epithelnestern ausserhalb des Periodontiums.** Unusual findings of epithelial nests outside of the periodontium, in: D. M. f. Z., 1(8): 337-341. Apr., 1932.
—*Transl. of article.*

136—Laidlaw, George F., M. D. (Columbia University, N. Y.): **Melanoblasts in the gum,** in: J. Dent. Res., xii(3): 534-537. June, 1932.

The dendritic melanoblast is a cell found in the human gum that has not been described before. Dendritic cells containing melanin have been found in the mucous membrane of the lower lip; they seem to be more prominent in brunettes than in blondes. They have also been found in the inside of the cheek and laryngopharynx. Pigmented gum is not an infrequent occurrence in man. The pigmentation varies from dark brown to slate color and is found principally on the buccal surface of the anterior part of the lower jaw, also on the buccal surface of the gum of the upper jaw and on the inner surface of the lips. From careful investigation conducted with the Negro and Caucasion races, with both light and dark skins it was concluded that the melanoblasts are a constant and normal constituent of the mucous membrane of human gum. Wherever they are found there is a potential power to form pigment and to develop malignant melanoma. Where pigmented areas exist in the gum it is advisable to keep them free from the irritation of dentures and of oral sepsis.

—*J. C. S.*

137—Lartschneider, Josef: **Ueber einige bisher nicht beachtete Eigenheiten des Zahnschmelzes und der Schmelzzellen.** Hitherto unsuspected qualities of the enamel and enamel cells, in: Zeitschr. d. Stomat., xxx(8): 475-481. 1932.

The author has stated in his papers of the last two years that the tooth enamel and the substance of the mussel shell are genetically and structurally homologous hard substances. Both are composed of three layers, two of which are calcified and one uncalcified. This surprising homology between tooth enamel and mollusc shell to his mind solves the mystery of the tooth enamel. This is no tissue but a firm aggregate of crystallized calcic elements cemented together by an organic substance which he calls *Conchyolin.*

Illustrations are given of a wonderful microscopic preparation (Euler of Breslau) showing properties and activities of enamel cells not before observed in cell biology; e. g., a longitudinal section through the cervical region of the tooth and the beginning portion of the root of an upper small incisor from an 18 year individual. The epithelial attachment extends upward lying internally to the enamel layer. This passes immediately into the crown cement, this in turn into the primary cement of the tooth root.

Hence the primary cement is none other than the thickened process of the enamel cell of the surface layer,—a fact which reduces the teaching of Ebner (that the cement is a product of the tooth follicle, hence "bone of periosteal type") to an absurdity.

The primary cement is a product of the enamel cells of the region of the tooth root which here function as cementoblasts. They appear (in the section discussed) to be grouped in full rows at the cement surface. From the periodontal cell pole, fibers are given off periodontally, which, on closer observation prove to be muscle fibers. As incredible as it sounds, the alveolodental ligament is smooth muscle tissue, and a product of the cementoblasts.

Why, asks the author, is the crown enamel surface layer, weak and thin, the cervical (cement) layer thicker, the root surface layer very thick? Because the surface layer, the crystallized calcic element of the enamel lustre (glaze) during the process of coagulation in crown and root portions is drawn out to fine calcium needles, the cement spicules, by muscle pull: the sparse epithelial muscle fibers in the cervical crown region condition shorter needles, the powerful epithelial musculature of the root realm conditions longer cement needles.

Is there an enamel caries? No. What can be carious in the enamel? The calcic crystalline layer of prisms (surface layer) or the Conchyolin contained in the enamel. Can one imagine the woody fiber of a reed pipe becoming carious?

The author hopes that these up to date findings may stress the importance of studies in comparative anatomy such as the older writers rejoiced in.

138—Mann, James B., D. D. S., Major Dent. Corps., U. S. A., with Crane and Kaplan: **Pyorrhea alveolaris:**

Histo-pathology and results of radical surgical treatment—a preliminary report, in: J. Dent. Res., xii(3): 459-460. June, 1932.

In attempting to determine the results of radical surgical treatment of pyorrhea alveolaris, blocks extensive enough to keep intact all tissues involved were removed from 35 living cases, before or at intervals after surgical treatment.

Pathological findings in untreated cases. There is extensive variation in the depth of the pockets surrounding individual teeth and also approximating teeth in the same mouth. All pockets examined have shown calculus in varying amounts on the teeth and more or less purulent exudate. The surface epithelium and that lining the gingival crevices, show hyperplasia, extensive degeneration and ulceration, which are attributed to irritation both mechanical and bacterial, as well as to an altered blood supply and *inflammatory* reaction in the underlying tissues. In many cases there is also present degeneration with cystic formation in the epithelial proliferations into the underlying tissue. Subepithelial changes are characterized by heavy monocytic infiltration with destruction of the superficial groups of the principal fibers of the peridental membrane, extensive absorption of the cementum, necrosis and granulation tissue formation. The blood vessels in these areas show varying stages of obliterating arteritis. Changes in the alveolar bone are very marked, and there is early and extensive inflammatory reaction in the marrow spaces. Osteoclasts are often present, and there is extensive destruction of the bone, with sequestration and marked fibroblastic proliferation.

Findings in operated cases. Blocks taken immediately after operation show complete removal of pathological tissue. In the healed cases the blocks show complete regeneration of the epithelial covering of the gum, and by its attachment to the cementum a new gingival crevice is formed. The new crevices are of ideal type, less than 1 mm. in depth. The alveolar bone has a dense cortical layer such as is normally present in well-formed alveolar bone showing no pathological changes. Differential staining shows that there is not only a new formation of the principal fibers of the peridental membrane at this lower level, but also reorganization of these fibers into free gingival, transeptal and alveolar-crest groups such as are present in normal cases. From a histo-pathological standpoint the success of this operation seems to depend on thorough removal of infected tissue and on leaving a remainder of normal tissue sufficient to give the tooth reasonable support.

—*Copy.*

139—Orbán, Balint, M. D. (Hist. Lab., Dent. Inst., Univ. Vienna, Austria): **New view-points on the question of epithelial attachment and gingival crevice,** in: J. Dent. Res., xii(3): 492-496. June, 1932.

Examination of a large amount of human material leads to the conclusion that the structure at the epithelial attachment depends on functional and mechanical influences on the gum margin. The epithelial attachment is the portion of the gum epithelium that is attached to the surface of the tooth. This tissue is fixed to the tooth and follows all its movements. The gum margin is limited on one side by the epithelium of the mucous membrane of the oral cavity, and on the other side (toward the tooth) by the epithelium of the gingival crevice, the bottom of which is at the point where the pocket epithelium joins the epithelial attachment; that is to say, where the epithelium is attached to the tooth surface. The gum margin is exposed to different insults from the outside. While the epithelial attachment is fixed to the surface of the tooth, and follows all its movements, the gum margin is free and exposed to mechanical influences of various kinds. This difference in the functions of the epithelial attachment and gum margin results in a difference in the structure of each. The gum margin of an incisor of a person 35 years old is shown (in a photomicrograph) where we see the different structures of the free gum margin and the fixed epithelial attachment. At the border of the gum margin and epithelial attachment, the cells of the former are more roundly shaped and lightly stained. This difference in structure is due to the different functional influences to which these tissues are exposed. The formation of the pocket progresses by degeneration of the cells attached to the surface of the tooth and by separation of the epithelium therefrom.

The cells in the epithelial attachment show a certain structural arrangement which is

due, I think, to functional influences on this tissue. If we observe a specimen (as shown in photomicrograph), we see that the cells nearest the surface of the tooth—that is, those attached to the tooth—are cuboid in shape. The cells next to these are elongated in shape, and run parallel to the surface of the tooth. The cells following these, toward the connective tissue, are obliquely inclined. The cells of the outermost layer, cuboidal in shape, are the basal cells of the epithelial attachment. The arrangement of the cells of the epithelial attachment is also shown in a high magnification of a human specimen.

The cause of this structural arrangement of the cells in the epithelial attachment is due, I think, to functional influences. One side of the epithelial attachment is fixed to the surface of the tooth and follows all the movements of the tooth. The other side of the attachment is in fixed connection with the connective tissue. Owing to the connection of the epithelial attachment on both sides, to tissues of different function, the structure of this attachment is expressed in the different shape and direction of its cells.

—*Copy of abs.*

140—Reppeto, W. M., D. D. S.: **Histopathologic studies of the superficial periodontal tissues,** in: J. Am. Dent. A., xix(5): 817-832. May, 1932.

Attention is drawn to the fact that knowledge of the pathologic processes taking place in the tissues of the oral cavity has increased so rapidly in the past few years that the information gained has as yet not been correlated to the extent that the knowledge of general pathologic lesions has. There is now a tendency to consider pathologic changes as physiologic attempts to remedy injuries suffered by living tissue.

The finer points of histo-pathologic research are of little practical value to general practitioners.

Tissues subjected to mechanical and physical abuses such as those encountered in the oral cavity very rarely show ideal conditions. But we do have a normal or average state of affairs on the basis of which to judge.

The epithelial attachment without question grows apically, as the study of only relatively few specimens showing the tooth and its supporting structures will evidence. This does not seem to be the same on all teeth nor on all surfaces of any one tooth at any specific time. There are twenty photomicrographs submitted showing different tissue changes in the regions of the epithelial attachment.

The practical vision of every dentist can be greatly broadened by the utilization of the fundamental principles of tissue pathology as evidenced under the microscope.

He shows how such mechanical conditions as the presence of faulty fillings, malposed teeth, food packs and calculus can weaken the overlying protective epithelium and lower its resistance to invading bacteria.

141—Rabinowitsch, Anna (Moscow): **Ueber die vegetative Innervation des Paradentiums.** The vegetative innervation of the periodontium, in: Paradentium, iv(2): 31-42. 1932.

Author's conclusions:

"We recognize a series of clinical processes in the sphere of trophopathology for which no definite anato-mico-histologic grounds can be defined. For example, the established fact may be mentioned that there is a trophic relation of dependence between the gingival tissue and the underlying alveolar bone. We know also, in alveolar pyorrhea for instance, that the so-called trophic processes of the gingiva and the alveolar bone, even if not always moving in parallel directions, yet remain always in contact with each other.

"These reciprocal relations of gingiva and bone have been determined in this clinic (Moscow) through the work of Lukomsky and Wassiljew in reference to Lupus gingivitis and Lupus paradentosis.

"The connection observed by us of the gingival sympathetic system with the lateral, gives the morphologic foundation of the trophic dependence noted. In favor of the share of the vegetative trophic system in some of the sections above described is the following fact: it is well known that pulpless teeth, that is those which have been deprived of their intra-dental sympathetic system, show a certain capacity for resistance to the destructive activity of alveolar pyorrhea.

"The ultimate significance of the fibers described for which definite physiologic foundations must be established, should be cleared up by further investigation."

—*Transl., H. A. R.*

(b) Periodontal Bacteriology

(Continued from page 121)

32—Antoniotti, Prof. Dr. D. (Buenos Aires): **Las ácidobacterias de la cavidad bucal y su accion decalcificadora en el diente.** The acidophilic bacteria of the buccal cavity and their decalcifying action on the tooth, in: Revista Odont. Brasil, xx(5): 217. 1932. Abs. Rev. de Stomat., xxxiv(11): 679. Nov., 1932.

Among the acidophilic bacteria of the oral cavity the present author describes a bacillus M. This organism develops from an acid milieu, lives in an acid medium and produces mucin. Teeth plunged into its cultures show a diffuse decalcification on their surfaces with enlargement of the dentinal canaliculi. This decalcification increases in proportion to the degree of acidity developed which attains its maximum between the 9th and 12th days. It reaches 0.486 per 100, then diminishes, little by little to return to neutrality toward the 40th day.

This important work, executed with the help of rigorous technics is well illustrated by figures and graphs.

—*Transl. of abs., H. A. R.*

33—Bogoljubowa, E. I. and W. F. Grosse: **Ueber die Mundhöhlenmikroflora der Affen.** Microflora of the oral cavity in apes, in: Paradentium, iv(6): 159-66. 1932.

This series of researches was divided into two parts; in part one attention was given chiefly to conditions in the oral cavity; while part two was a bacteriologic study entirely.

Part I. Only ten of the 49 apes studied (20.5%) had normal mouths; 26 showed various types of gingivitis, five (10.2%) had paradentitis; three had ulcerative stomatitis.

Gingivitis was most frequent, especially the catarrhal form, in 53.1%; then caries, of first molars especially, 51%; then paradentosis. The acclimated *Macacus rhesus* suffers almost wholly from caries and diseases of mucous membrane. Paradentosis was most common in this group.

Part II. (1) The normal flora of monkeys (apes, chimps, 1 orang-outan, baboons, etc.) is bacteriologically not different from that of man. (2) It is similar to that of the dog. (3) The pathologic flora in disease of mucous membrane, in paradentosis (apparently also in caries) is to be differentiated from that of humans. In severe cases, the fuso-spirillary symbiosis is present with suppuration. (4) Acid fast microbes, of the type of bacillus influenzae and the diphtheria bacillus were not demonstrable.

—*Transl.*

34—Cahn, Lester Richard, D. D. S. (Columbia University): **Notes on further histo-clinical studies of fungus infestation of the gums,** in: D. Cosmos, lxxiv(11): 1073-76. Nov., 1932.

One must study the cellular changes that take place in the soft tissue if one is to thoroughly understand the pathology of gingivitis and stomatitis. It has been, and still is, the author's practice to make biopsies of all doubtful lesions with which he comes in contact. This has led to some interesting findings, especially the presence of a fungus in the gums. He places little reliance upon either smears or cultures made from chronically inflamed gums. In practically every smear are found spirochetes, fusiform bacilli and other rod-shaped organisms, cocci tetrads and almost every other morphological form of bacteria. The more inflamed an area becomes, the more increased are the numbers of microörganisms, especially spirochetes.

Until more definite proof is obtainable, he cannot have faith in the diagnosis of chronic Vincent's gingivitis from smears or cultures.

A few case histories are reported with photomicrographs to illustrate the fungus masses as they appear under the microscope. Surgery or gingivectomy has been the only satisfactory and permanent treatment.

Fungi are frequently found in the hyperplastic gingivitis of pregnancy. Just what the relationship, between fungi and pregnancy gingivitis is, the author does not know, but is now working on the problem.

—*S. R.*

35—Grandclaude, Dr. Ch. and Lesbre, Ph. (Paris): **Recherches expérimentales sur le pouvoir pathogéne de l'association fuso-streptococcique à point de départ dentaire.** Experimental researches on the pathogenicity of the association of streptococci and fusiform bacilli of dental origin, in: Rev. Odont., liii(9&10): 547. Sept., 1932. Abs. Dental Record, liii(12): 41. Dec., 1932.

The authors believe that a symbiosis between fusiform bacilli and non-hemolytic

streptococci plays a preponderant part in dental infections. Experiments were performed upon the rabbit, which confirmed their opinion of the pathogenicity of this symbiosis. The mixed cultures employed were obtained from cases of pyorrhea; cultures from carious cavities of the third and fourth degrees gave similar results.

Intra-dermal or subcutaneous inoculation also produced suppuration. Intra-muscular inoculation produced necrosis, usually followed by cachexia and death. Intra-pulmonary inoculation caused hemorrhagic suppurative pleurisy and necrosis of the lung. The pathogenic effect is due to the symbiosis and not to either of the organisms singly, for when they are inoculated separately no such serious lesions take place.

—*Copy.*

36—Keilty, Robert A., M. D.: **Gingivitis.** Bacterial infection and protozoal infestation as a basis for correlating all types of gingival inflammation, in: J. Dent. Res., xii(3): 448. June, 1932.

The paper presented the role of the bacteria and protozoa—found by smear, culture and histological section—in the causation of inflammations in the structures about the teeth, and stressed their importance as a basis of correlating these inflammations, thus definitely linking pyorrhea and Vincent's disease as gingivitis. The paper included a definition of the author's pathological interpretations, and the dictum that the bacteriological flora and protozoal infestation of the gingival sulci are the prime etiological factors in all inflammations in the structure about the necks of teeth. On this basis Vincent's disease as an acute gingivitis and pyorrhea alveolaris as a chronic gingivitis are one and the same thing, with differences merely in intensity of the reactions. A method of study and report for each case, which gives an opportunity for comparative results, was briefly outlined.

—*Copy.*

37—Krogh, Harold W., D. D. S.: **Reduction of the gingival flora preceding operation,** in: J. Am. Dent. A., xix(4): 659-665. Apr., 1932.

Author's conclusions as to advantages of this procedure.

1. There is an absence of local and general post-operative ill-effects, which will alone repay the dentist and patient for time spent in pre-treatment.

2. There is improvement in the gingival tissues.

3. The bacterial factor in periclasia is reduced.

4. The procedure is applicable for use with any anesthetic.

5. There is less swelling and soreness and the wounds do not break down.

6. The completion of the surgical work at one operation is possible.

7. It is much more pleasant to work in a clean field and easier to do surgical work. There is little incentive to do our best in a filthy mouth, but, if a mouth is clean, we have a different attitude toward the patient and unconsciously do better work.

38—Viefhaus, K. (Munich): **Bacterial content and disinfection possibilities of toothbrushes,** in: Archiv. f. Hyg. u. Bakt., cvii(1): 155. Jan., 1932. Abs., J. Am. Med. A., xcviii(23): 2029. June 4, 1932.

Viefhaus found that newly purchased toothbrushes, whether they had a protective covering or not, are not sterile, for he discovered many bacteria, some of them pathogenic. Because of this he considers the sterilization of newly purchased toothbrushes absolutely necessary. Most of the methods that have been recommended for the disinfection of toothbrushes he found to be ineffective, such as sodium chloride, even when used in a concentrated form, also formaldehyde vapors that are developed at room temperature. However, formaldehyde vapors that are developed under the influence of heat, when potassium permanganate acts on a formaldehyde solution effects complete sterilization in a comparatively short time. This reliable, although somewhat complicated, method is not suitable for daily use but should be resorted to whenever it is necessary to sterilize toothbrushes of patients with such conditions as alveolar pyorrhea or parodontitis. It is also suitable for hospitals and sick rooms, and it has the advantage that it does not in the least impair the toothbrush.

—*Copy.*

(c) Other Laboratory Researches

(Continued from page 128)

49—Becks, Herman, M. D., D. D. S. (Univ. of Calif.): **Der osteopathisch-dystrophische Typ der Paradentose.** The os-

teopathic-dystrophic type of paradentosis, in: Paradentium, iv(1): 1-8. 1932.

In some earlier experiments of the author (Becks and Weber: J. Am. Dent. A., xviii: 197-264. Feb., 1931) it was demonstrated by experiments on dogs that if the diet contained only small amounts of calcium and if vitamin D in the form of cod liver oil was omitted, the dogs showed severe dystrophic disturbances in the osseous system. There was produced in this manner the typical picture of a generalized *osteodystrophia fibrosa with pseudotumors and cyst formation* in the jaws.

By these experiments it was proved that a form of paradentosis can be produced by calcium and vitamin D deficiency diet. The vitamin D deficiency causes the outbreak of severe bone and tooth changes. The alterations produced in the most extreme form in the paradentium have their inception in the soil of a generalized osteodystrophia fibrosa, i.e., on the soil of an osteopathy, and present in some degree the appearance of a "study-model" of the type of paradentosis which is recognized by its dystrophic character without primary inflammatory symptoms in the gingiva. In the course of this dystrophic-osteopathic paradentosis, there first appears a tendency to shifting and loosening of the teeth followed by slight pocket formation.

—*Transl., H. A. R.*

50—Briasco, Prof. J.: **Ricambio lipoideo colesteatosi e apparato dentario.** Relationship between lipoid metabolism and normal and pathologic conditions of teeth; and the development of dental cholesteatosis, in: Stomat. (Ital), xxx:4-16. Jan., 1932.

The author discusses the lipoids of the teeth under normal conditions in the cementum, pulp and alveolar periosteum; and in pathologic conditions in the milk and permanent teeth, giving experimental proofs of fatty infiltration.

—*Transl., H. A. R.*

51—Eicken, Dr. Erich: **Histo-topochemische Untersuchungen am Zahnfleisch unter Anwendung der Schnittveraschung.** Topographical histo-chemical researches of the gingiva on the use of ashing of sections, in: Paradentium, iv(3): 72-87, (4):89-99. 1932.

The author presents for the first time the picture developed by ashing sections of the gingiva. The method was inaugurated by Liesegang and developed by Policard, Tschopp, Schultz, Braun and others.

At the beginning of the ashing process, i. e., at a relatively low temperature, the hornified uppermost epithelial layer, the elastic elements of the connective tissue and vessels, show first the signs of carbonization. During the entire heating process these tissue portions retain their black color, while the other portions undergo a complete burning. According to the stage of the heating process and the degree of carbonization, the different component parts of the section give individualized pictures with selective colorings and appearances. In some are a far reaching similarity of relations in the mucous membrane to those in the outer skin *(Gans)*.

The calcium picture obtained by dissolving out the water soluble salts shows an increased calcium richness in the area of the uppermost hornified epithelial layer, the epithelial band and the subepithelial tissue in the vessel walls; while, in other portions of the connective tissues, a diffuse distribution may be recognized.

The ashing of pathologically altered gingival tissues, in inflammatory foci as in stasis inflammations and in *a parulis* shows a thickening of the entire ash picture as well as a local thickening of the background. The author further succeeded in showing inorganic residues of the gingiva with deposit of metallic salts from the vicinity of fillings; an enrichment of all the salts was found as well as of the salts of calcium. This finding was referred to a reactive foreign body inflammation.

—*Transl., H. A. R.*

52—Goldstein, Ferdinand, Dr. med. (Prague): **Kritische Bemerkungen zu der Publikation "Die Bedeutung der Kapillaroskopie für die Klinik und Therapie der Alveolarpyorrhoe" von Dr. H. Back und Dr. W. Redisch (Prague) in Med. Klin. 1931,** in: Med. Klin., xxviii(3): 82. Jan., 1932.

The author admits that his familiarity with capillaroscopic methods is not extensive, and adds nothing new to the subject. Back and Redisch reply in a note following the article in which they state that capillaroscopy has been demonstrated by their already large series of fine photographs and microscopic studies to be of some value in the attempt

to discover systemic conditions related to alveolar pyorrhea.

—*H. J. L.*

53—Rompel, Hedwig: **Vergleichende Stoffweckseluntersuchungen an Paradentose-kranken und normalen.** Paradentosis. Comparative researches on differences between normal individuals and those afflicted with paradentosis, in: Paradentium, iv(3): 59-72 (Z. R., xli(27)). July, 1932.

Author's summary:

Two series of experiments were instituted for the investigation of the acid base equilibrium. The first consisted in a study of the calcium and potassium levels after four days of an alkaline diet plus daily 12 g. of alkalizing powder (Natr. bicarb. and Kalii carb.) and after three days an acidifying diet plus daily 12 g. acid tablets (0.25 g. Ammon. biphosphat. plus 0.25 g. Ammon. citrat. plus 0.05 g. *bolus alba*)*. It was found that the calcium and potassium levels in the serum after the acid diet was higher than after the alkaline.

In the second series of experiments, the action of an overload of alkali on the urine was studied; its titration acidity or alkalinity, its pH and its content of ammonia and phosphates. It was found that in paradentosis cases there was present a great tolerance for bases, in contrast with the cases having a normal paradentium.

In both series, a tendency to acidosis metabolism was observed in the paradentosis cases.

*Kaolin.

—*Transl.*

(d) Clinical Etiology

(Continued from page 140)

216—Bauer, W.: **Ueber Entstehung, Vorbeugung und Behandlung der Zahnlockerung.** Origin, prophylaxis and treatment of tooth loosening, in: Zahnä. Rdsch., 217-224. 1932.

The loosening of the teeth is the clinical expression of a change in the periodontal space in the sense of a loss of the taut adjustment of the specific supporting fibers of the tooth which favors functional activity. This change usually starts in the free gingival margin and is mostly due to inflammatory processes in this region and progresses to derangement of the periodontal fibers and lacunar structure of the alveolar bone.

The author thinks that even transitory harmful effects of this sort, due to general lowered resistance of the tissues or to inherited predisposition are not completely cured but open the way for lasting functional disorders. The "functional mechanical stimulus" of the normal articulation must be preserved under all circumstances in order to prevent paradentosis. The necrotic processes in the cement which play so large a part in Gottlieb's theory, the author regards as of little significance when the opposing histologic findings are considered. In his opinion, the epithelium proliferates owing to the separation of the deep periodontal tissues from inflammation or functional malocclusion. The metabolic disturbances appearing earlier to be causal factors in paradentosis have not withstood further researches. The author believes the instruction of the patient in mouth hygiene to be of the utmost importance; little can be hoped for from dietary prescriptions with our as yet imperfect knowledge of nutritional influence on the fully formed teeth. Attention is to be paid to the most careful and least irritating methods of treatment. Half-crowns and inlays are to be preferred to fixed splints or bridges whose abutments must be firmly fixed in the jaws.

—*Transl.*

217—Bergamini, Dr. M.: **Colesterinemia e piorrea alveolare.** Cholesterinemia and alveolar pyorrhea, in: La Stomat., xxx(7): 616-621. July, 1932.

The amount of cholesterin in the blood is a normal finding and varies physiologically from gr. 1.40 to 1.80 per thousand. Hypercholesterinemia is constantly present during pregnancy. Among the pathologic states in which the amount is slightly diminished are pulmonary tuberculosis, lues, the cachexiae due to malignant tumors. The object of the research described in this article was to ascertain whether the so-called "pyorrhea alveolaris," like other morbific states, can influence the amount of cholesterin in the blood or vice versa. It was found that the tendency was toward a lowering of the cholesterin content.

In 25 cases, five (5) only showed an increase to 1.40 per thousand, which, as has been said is to be considered normal accord-

ing to the research method used. The other 20 cases were subdivided into 8, with a decided low content and 12 with only a slightly low content. Basing his conclusion on all the experimental researches carried out by him on the blood serum of 25 pyorrhea patients, the author believes that "the blood of pyorrheics contains an amount of cholesterin almost constantly lower than normal."

—*Transl.*

218—Boenheim, Felix (Charlottenburg): **Pyorrhea alveolaris as a systemic disease,** in: Brit. Dent. J., liii:12-16. Jan., 1932.

Basal metabolism and specific dynamic action are normal only in 2% of the cases of pyorrhea. Endocrine equilibrium is upset. Pyorrhea alveolaris is neither a diabetic or prediabetic symptom and is no more common in diabetes than in other diseases, e. g., liver, gall-bladder, gastro-intestinal diseases. Common metabolic disturbances may lay the foundations for pyorrhea, also functional liver troubles.

219—Brinch, Ove: **Kasuisticher Beitrag zur Frage der Aetiologie der Paradentose bei einem jungen Hunde.** Problem of the etiology of paradentosis. Case report on a young dog, in: Paradentium, iv: 15-16, 1932.

The author believes this case worth reporting because (1) it shows paradental disease in a very young animal; and (2) because the etiologic factors can be determined.

The case is that of a young dog and of whose parents were fine, healthy pedigreed animals, and which suffered from other general disease as well as an affection of the jaw. The animal was larger than others of its age and race giving an impression of acromegaly but without symptoms of this disease. Fur thick, curly, matted and lustreless; extraordinarily lively and clever. General factors present were polyneuritis, achylia gastrica, polyglandular insufficiency. No sign of ovarian hormonal activity were present the animal being sexually wholly indifferent.

All six lower front teeth on lingual were denuded to the apex and more or less loosened. Concrements and granulation tissues could not be clearly determined. The incisors lay horizontally in the jaw; both lower canines were tipped outward, their roots however not being denuded. The large upper back teeth have lost about a cubic centimeter of the gum on the palatinal side of their roots. The masticatory capacity is much lowered since the dog cannot use the loose incisors. Condition began 6 to 9 months ago and is growing worse.

Obviously this is the dystrophic type of paradentosis. The author hopes to be able to examine and report on the histological findings after the animal's death.

—*Transl.*

220—Campatelli, Dr. Vincenzo (Florence): **Contributo allo studio dei rapporti fra piorrea alveolare ed uricemia.** Contributions to the study of the relations between pyorrhea alveolaris and uricemia, in: La Stomat., xxx (6): 546-549. June, 1932.

From the anamneses, examinations of patients and from the clinical phenomena appearing after treatment of pyorrhea in these cases it was found that:

(1) the manifestations of pyorrhea alveolaris met with in individuals with gout or uricemia occur from the 35th to the 45th year; (2) the highest percentage of cases occur in subjects with hereditary gout; (3) at the inception of pyorrhea the amount of uric acid in urine or blood gradually diminishes, finally reaching normal; (4) gouty attacks and the organic or articular localizations of uric acid gradually diminish. All this tends to the idea that the alveolo-dental articulation serves in these cases as an emunctory for the organism. Early extraction with its subsequent cicatrization suspends the elimination of uric acid by this alveolar path. These forms of pyorrhea differ from the more ordinary in the sense that, in the more acute phases, they cause marked pain, and the secretion of pus in the pockets is less dense and creamy than in other forms of paradentosis of different origin.

—*Transl.*

221—Croes, J. de, & R. Charlet: **Contribution á l'étude de la pyorrhée alvéolaire. Sa cause initiale. Son traitement préventif.** Contribution to the study of alveolar pyorrhea. Initial cause. Preventive treatment, in: Presse Dent., xxxiii: 575-582. 1932. Abs. D. M. f. Z., 1(19): 898-9. Oct. 1, 1932.

The authors base their paper on the radiologic findings, and they think that the predisposing factor in paradentosis is the thick-

ness of the alveolar process. Too slight calcification of the bone surrounding the tooth root is the primary feature; and secondarily, the combination of too small roots with relatively long crowns. Since a faulty calcification of the jaw is mostly correlated with defective calcification of the entire osseous framework, means must be found to restore the disturbed equilibrium of the calcium metabolism.

As the treatment of choice, the author recommends the use of calcium salts; and also, as of most importance for fixation and building of lime salts into the body three series of ultra-violet radiations to each ten sittings. The results of treatment will be more favorable the earlier they are begun.

—*Transl.*

222—Dalldorf, Gilbert, M. D.: **Lesions in human teeth the result of scurvy,** in: D. Cosmos, lxxiv(7): 700-706. July, 1932.

The author reviews Westin's book (2-vol. monograph) "Ueber Zahnveränderungen in Fällen von Skorbut bei Homo," Stockholm, 1931, which is a study of the dental findings in 18 cases of scurvy. Following the description of the excellent method of preparing his microscopic material, Westin devotes 198 pages to literature of the subject after which the individual cases are studied. Important points to periodontists are first, the clinical pictures of scorbutic gingivitis: (a) a rapidly developing hyperplasia of the papillae; (b) tendency to spontaneous and intractable hemorrhage; (c) presence of blood clots about the teeth; (d) disintegration of epithelium commencing on the papilla; (e) subsequent development of granulation tissue there; and finally (f) gangrene. These changes he attributes to degeneration of the vessels and capillary stasis and states that papillary enlargement commences as an edema.

Since gingivitis similar to the foregoing may be due to other causes, scorbutic gingivitis may be complicated. Loosening of the teeth in scurvy is a classical feature due to causes entirely different to those of loosening from pyorrhea. In the one, the cementum and bone become resorbed as a local expression of the underlying skeletal changes, characteristic of the disease; in pyorrhea, a recession of epithelium enucleates the tooth. Formation of pockets was never present in the scorbutic cases. Teeth loosened from scurvy promptly tightened on the addition of vitamin C to the diet, while pyorrhea does not so respond. In some of the most severe scorbutic cases pyorrhea was not present. Westin does not believe pyorrhea is a symptom of scurvy. He finds that caries is less evident than usual in his scorbutic patients and believes that scurvy may be protective. Scurvy hastens senile changes in teeth. X-ray changes characteristic of scurvy are denticle formation, obliteration of apical third of pulp canal and marginal horizontal alveolar atrophy. These symptoms are not pathognomonic. In pulp findings are: hyperemia, edema with atrophy, metaplasia and degeneration of odontoblastic layer with formation of small cysts in it, destruction and calcification of vessels and areas of necrosis, with calcification areas about which osteoid tissue forms. The dentin shows enlargement of the canaliculi. The new formation resembles osteodentin. The cementum shows areas of destructive absorption of the attached membrane and aberrant formation of cement masses in the periodontium. Degenerative changes are manifestations of acute scurvy, abnormal dentin and bone formation, indications of latent scurvy.

Höjer believed the initial lesion to be an atrophy of odontoblasts. Wolbach and Howe show it to be change in intercellular substance. Teeth require twice as much vitamin C for protection as ribs,—in man as well as in guinea pigs. When anti-scorbutics are fed vitamin C the intercellular fluid about the odontoblasts solidifies.

—*H. J. L.*

223—DeVan, M. M., D. D. S.: **Local factors involved in the loss of the alveolar processes,** in: Bull. Va. St. Dent. Assn., viii(2): 65-76. Jan., 1932.

The author is surprised to find so little attention paid to the alveolar process, efforts to save teeth at the expense of which are viewed as short sighted conservation. In this paper only the local factors of their destruction are considered; general elements are involved but should not deter from the removal of local conditions favoring gingival trauma and infection. Preservation of the alveolar processes should be the aim of every prosthetist.

What can be done by the average dentist,

asks the author, to preserve this important bony framework?

(1) All inlays and fillings should restore desirable tooth morphology.

(2) All irritations of gingiva or peridental membrane from whatever cause should be avoided.

(3) Occlusal surfaces should be reconditioned where mobility is beyond normal.

(4) All pockets should somehow be removed, by instrumentation, cautery, surgery, or extraction.

(5) Partial appliances should be comparatively rigid.

(6) In their construction, the remaining teeth should be freely used to help counteract stresses.

(7) In case of extraction, an immediate substitute should be prepared before using the forceps.

(8) Occlusal surfaces of teeth for denture use should be reconditioned.

224—Editorial: **Pyorrhea alveolaris,** in: Brit. Dent. J., liii(1): 77-79. Jan. 15, 1932.

The writer of the editorial which is a review of the present day conception of periodontoclasia, notes that much research remains to be accomplished by replacing present conjectural and hypothetical beliefs with exact knowledge. The writer commends Hulin's paper which is included in the report of the Eighth International Congress and notes that he agrees with Broderick, James and Counsell that the earliest periodontal lesion is a marginal gingivitis and that "tartar deposition" is of great importance. Hulin disagrees with J. G. Turner, however, that all cases of gingivitis are potential etiological factors of a later "pyorrhea" and states that the difference between the two conditions "involves a different pathological interaction of the body cellular elements." The writer feels also that the changes described by Box, James and Counsell are not the last word in histo-pathology but that "they hold the field" at present.

He finds a wide variety of beliefs in the field of etiology which are confusing and inadequate; those of J. G. Turner, Stillman, McCall and Broderick and the bacterial theory held by some French and American writers are mentioned and he states that Hulin agrees with Broderick's theory of alkalosis in some important respects and confirms some of his findings. The editorial writer thinks that it is probable that there are many etiological factors put forward which deal with conditions of a different character. The theory of the responsibility of local factors seems inadequate for all cases, although of importance in some. It is evident that general metabolism must be considered but some research workers are stressing this too strongly at present.

—*B. T.*

225—Frey, le Prof. (Paris): **Causerie sur la pyorrhée.** Talk on pyorrhea, in: Bull. Soc. Méd. et Chir. Dent. de Marseilles. Apr., 1932. Abs. Sem. Dent., xiv(37): 1050. Sept. 11, 1932.

Pyorrhea is a chronic dystrophy of the periodontium often suppurative, generally polyarticular, appearing initially at cervical level and denuding progressively the entire root, resulting in the loss of the tooth.

Two factors dominate the pathogeny of the *maladie de Fauchard*: (1) general, arthritic; (2) local, circulatory. As soon as the way is opened, these two pursue their dystrophic course, favored by many local factors and by the infectious tone of the environment.

The prodromes of the disease are the gingival irritation, marginal and interstitial gingivitis. Its incidence is characterized by retraction of the interstitial gingiva, its separation from the tooth and slight dental deviation. The static period is characterized by accentuation of all these symptoms. The complications may be functional and infectious. The radiographic diagnosis should confirm and elucidate the clinical findings. As to the prognosis, it depends on the etiology. The treatment includes, specific desensitization, anti-shock medication; treatment of vago-sympathetic system; opotherapy, prophylaxis.

Treatment locally includes peri- and intradental surgery; static, by stabilization apparatus; chemical, by use of antiseptics curative or schlerosing; physical; and biologic by means of vaccinotherapy.

—*Abs. transl.*

226—Gubler, Dr. Walter (Berne): **Zur Frage der orthodontisch Verursachten Wurzelresorption.** Absorption of the root as a result of orthodontic treatment, in: Schwz. Mschr. f. Zhkde: pp. 1011-61. Oct., 1931. Abs. Brit. Dent. J., liii, 1(2): 75-6. Jan. 15, 1932.

Dr. W. Gubler examined radiographically 153 cases in private practice, 12 or 7.8 per cent of which showed absorption. Examination of these roots showed that there are several types of absorption. Oppenheim's findings are confirmed by Dr. Gubler. Capacity for absorption is not confined to the cell elements of the root at its apex when acted upon by orthodontic appliances, but extends to the whole length and leads to defects in the deeper layers of the dentine. The position of the defects corresponds to the direction of the greatest force applied. Radiograms alone do not suffice to show all the changes taking place on the surfaces of the root. The vitality of the pulp does not appear to be materially affected by these processes of absorption although certain changes are manifest therein. Early treatment when regulation is conducted with proper precautions, is not of any particular injurious moment. In any case it was not shown that early treatment, which often has many advantages, leads to absorption. If the rules are observed the risks of absorption are minimized. In normal conditions the loss of tooth substance in the region of the peridental membrane is compensated by a deposition of cement which takes place as the result of the exercise of function. These investigations tend to show that absorption takes place with great regularity when the same kind of apparatus is used. What part the constitution of the patient plays in this it is difficult to say. There is less absorption when the force is applied only to the crown than when the tooth is moved bodily. That the axis of rotation when the crown is rotated is in the lower third of the root is confirmed by these radiological and histological experiments of Dr. Gubler.

—*Copy.*

227—Heinrich, Dr. E. (Dresden): **Zur Psychogenese der Paradentose.** On the psychogenesis of the paradentoses, in: D. M. f. Z. 1(11): 481-485. June 1, 1932.

228—Hoffer, Carl W., D. D. S.: **Visualizing the mouth as a masticatory unit,** in: Ohio St. D. Soc. J., vi(2): 59-61. **May, 1932.**

Forming this unit we have the teeth of maxilla and mandible with their supporting tissues; the upper half stationary, the lower half movable within the arc of a sphere. Mouths in normal occlusion may be thrown out of balance (1) by impacted third molars; (2) by loss of any six-year molars, especially in mandibles of young patients; (3) by teeth mal-erupted and not properly treated by orthodontia. These factors will cause development of deformities, and in a short time destroy the function of the mouth as a masticatory unit or prepare the way for pyorrhea.

229—Hoffmann, Dr. K. F.: **Habitual constipation and dentistry,** in: Dtsche Zahnärgtle Wsch., xxxv(4): 197. 1932. Abs. Viertljhrsschr. f. Z., xlviii (3): 411. 1932.

Habitual constipation, a familiar and widespread malady, has special interest for the dentist, because by the regulation of intestinal activity by suitable local treatment, paradentosis may be successfully dealt with. The unfavorable influence of constipation upon the marginal paradentium may be referred to intestinal auto-intoxication. Intestinal juices passing through the portal system are usually disinfected in the liver, but by too long delay in the intestinal canal the liver can no more do its work. Thus the toxic substances pass into the blood, leading to all kinds of disturbances and insults to the peripheral nerves. *Sturm* observed in intestinal obstruction endotoxins not only in the capillaries of the villi but also in those of the gingiva. Siegmund speaks of a colloidochemical reaction in the saliva upon stimulation of the sympathetic. Metschnikoff says: "The human being grows old and sick only through his intestine," and again "Paradentosis patients are mostly constipated." The author believes that in paradentosis attention should be paid to the regulation of intestinal activity.

—*Transl.*

230—Le Norcy, ——— (Rennes, France): **De la pyorrhée au cancer.** From pyorrhea to cancer, in: Sem. Dent., xiv: 1133. Nov. 6, 1932.

In the author's opinion certain analogies exist between pyorrhea and carcinoma. Epithelial proliferation is organized and orderly in pyorrhea, incoördinate and anarchistic

in cancer. Further, in both diseases we find alkalosis, which conditions a difference in oxidation favorable to the neoplasm. "But, it is more than likely that, if pyorrhea remains pyorrhea, while carcinoma develops in certain organs, this is a question of soil." The article stresses the importance of heredity in malignant diseases.

—*Transl.*

231—Lyons, Harry, D. D. S.: **Chronic periodontoclasia,** in: Bull. Va. St. D. A., viii(2): 53-65. Jan., 1932.

This paper is intended to present the modern concepts of the etiology, pathology and treatment of pyorrhea. We are now satisfied that the etiologic factors are multiple. Typical periodontoclasia does not occur in children but is primarily an adult disease. The local and general causes of the disease are enumerated and discussed in detail. The diagnosis of chronic periodontoclasia demands a complete oral examination and diagnosis, clinical and radiographic. Box lists twenty signs of pyorrhea; but this is unnecessary. The diagnosis rests on only four factors; namely, color, form, density and gingival attachment. With the determination of these four factors the presence or absence of periodontal disease may be established as well as its extent to a certain degree. For prognosis, further examination is necessary. The prognosis depends upon three factors: (1) healing power of patient; (2) coöperation of patient; and (3) the ability of the operator to eliminate the causal factors.

Many modes of therapy are advocated; but only those based on well known biologic facts should be accepted. The author discusses these at length, stressing instruction in home hygiene, coöperation of patient, etc. On analysis few diseases offer such favorable prognosis. The permanency of cure of course depends on thoroughness with which disease factors are eliminated and after-care of patient.

232—Merritt, Arthur H., D. D. S.: **The systemic cause and effect of dental diseases,** in: J. of Med., xiii(9): 343-349. Sept., 1932.

Gingival inflammatory reactions sometimes originate outside of the mouth and in turn these may exert a harmful influence upon the general system.

The author divides these into two groups: (1) those purely local; (2) those due to systemic conditions; (3) those due to metallic poisons; (4) those due to fuso-spirochetal activity. In the latter group the point is made that chronic gingivitis is often mistaken for Vincent's infection. "Correct differential diagnosis can always be made, if it be remembered that the one is painful and the other is not." Among the most important predisposing factors are mentioned oral sepsis and the abuse of tobacco.

Vincent's infection is a medico-dental problem. All fuso-spirochetal infections are potentially serious. Noma sometimes begins as an end-result of Vincent's infection.

Periodontoclasia is the most commonly overlooked of diseases. Like caries it may call for removal of diseased teeth from the mouth. It involves the processes of nutrition. Like caries too, its local exciting cause is the activity of bacteria, chiefly streptococci, and staphylococci.

In conclusion the author calls attention to the interdependence of dentistry and medicine. If it be true, as Broderick believes, that we have in the mouth a record of past and present metabolic errors, the interpretation of these may be an aid in the diagnosis and treatment of disease even remote from the mouth itself.

233—Pjatnitzki, F. A. (Leningrad): **Beiträge zur Frage der Aetiologie und Pathogenese der Paradentose.** Contributions to the problem of the etiology and pathogenesis of paradentosis, in: Paradentium, iv(2): 25-31. 1932.

Author's summary:

The clinical material was furnished by patients at the Hospital of the Stomatological Clinic of the Military Medical Academy.

In examination we determined the following:

1. The anamneses regarding the qualitative combinations of food in the last two or three years, especially just before visiting the clinic, i. e., the relation of the meat-fish portion to the vegetable-fruit portion of the diet, the full value of these in the sense of satisfaction, and the supplementary factors, especially vitamins C and B.

2. The clinical form (of paradentosis): i. e., we distinguish cases which stand nearest to the two most extreme types, which naturally do not present themselves in ideally pure form.

(a) The dystrophic form: Paradentitis marginalis chronica alcalotica, in our classification, paradentosis of Kantorowicz, diffuse atrophy of Gottlieb, deep paradentitis of Häupl-Lang; which is to be clinically differentiated by symmetrical atrophy of the paradentium with denudation of tooth roots; gingival margins often anemic, levelling off of the festoons; absence of pockets with tendency to early vertical displacement of the teeth, and to deposit of loose supragingival tartar.

(b) The inflammatory form: Paradentosis marginalis chronica acidotica, in our classification; paradentitis of Kantorowicz; filth pyorrhea of Gottlieb, and marginal paradentitis by Häupl-Lang. This is clinically manifested by a symmetrical paradental atrophy passive hyperemia and gingival edema; evident festooning of the gingival margins, presence of pockets in gingivae; and tendency to the deposition of hard, subgingival, serumal tartar.

(c) Transitional forms.

3. The external expression of constitutional conditions, after the classification of Kretschmer and Sigaud: i. e., pyknic and asthenic (fibrous and asthenic types of Bogomoletz).

4. The Rumpel-Leede reaction was determined, which is one of the symptoms of C avitaminosis.

5. The acid metabolism also was determined after the renal factor method of Galwialo-Wasjutotchkin.

On the whole 42 patients were studied, each determination being made at least twice, some many times oftener,—in all, 842 determinations. Each patient was carefully selected with regard to his clinical lack of any acute or chronic sickness or intoxication. Urinary examinations were made in each case. On the ground of the results of these studies, the author finds himself in full accord with Entin; that the constitutional arrangement of the neuro-glandular system and the structures of the marginal paradentium corresponding to this arrangement or its morphologic development, and the functional characters of the active mesenchyma, really condition the direction of the clinical course and its taking on of one or the other form.

The material collected in the author's clinic on the favorable effects of diet, especially vitamins C and B, on the course of chronic marginal paradentitis, particularly in its inflammatory forms, confirms what has been said.

—*Transl.*

234—Platonow, E. (Moscow): **Ein Versuch, die Aetiologie der Alveolarpyorrhöe vom neurologischen Standpunkt aus zu betrachten.** An endeavor to consider the etiology of alveolar pyorrhea from the neurologic standpoint, in: Paradentium, iv: 9-15. 1932.

Research workers have struggled with the problems of alveolar pyorrhea, if not since Ambrosius who first observed it, at least since the second half of the last century. Endocrinology now holds a most important place in the list of those scientific doctrines which help toward the study of normal and pathologic conditions of the human organism. In particular it must always be considered that there is interchange between the endocrine and the vegetative nervous system (Weinmann, Roy). A long review of history and literature follows.

In spite of all this it is not yet understood how a disturbance of the vegetative centers, destined for the metabolism of the entire organism, in case this should get out of order, can evoke a selective process leading to atrophy of the jaws; while clinicians see many cases of alveolar pyorrhea which are not underlaid by any metabolic disturbance.

Most recent researches have established a physiologic mobility of the teeth which enables us to understand Weski's alveolo-dental joint relation and leads to an analogy between alveolar pyorrhea and the osteoarthropathies. On these grounds the author is inclined to assign to the influence of the nervous system in the pathogenesis of each arthropathy as also in the etiology of alveolar pyorrhea a significant role. Examples are given from the author's clinical and experimental practice of the part of the vegetative nervous system in pathologic processes.

It seems most likely that an interruption in the nerve fibers does not always evoke severe pathologic changes (ulceration or atrophy). But it is possible that the equilibrium is shifted to the sympathetic or the parasympathetic side of an area, and a local acidosis then occurs; as, for example, in podagra *(Dresel)* and the calcium in the uric acid type is precipitated (Gasparrini). The author's histologic researches of the nerves

of the dental pulp in alveolar pyorrhea have confirmed these conjectures. In the preparations were found changes analogous to the neuritic processes; the question arises whether the degenerative changes are primary or secondary. Only the histologic study of the nerves from the periapical region and the areas of the ganglion cells, perhaps even from the brain centers can clear this up.

In conclusion the author suggests a series of researches which he believes would be important in this connection in order to answer the questions aroused; (1) detailed study of vascular nervous interchange relations in the teeth and neighboring tissues in alveolar pyorrhea; (2) study of the ganglia and nerve centers of the vegetative nervous system in the bodies of dead pyorrhea patients; (3) clinical studies of the vegetative nervous system in pyorrhea patients living.

235—Stillman, McCall, Miller and Blass: **Periodontal disease, its cause and treatment,** in: Dent. Survey, viii (2 to 11): Feb. to Nov., 1932.

The present series of papers gives a complete outline of instruction in necessarily condensed form, in diagnosis and treatment of periodontal disease. The steps in a standardized procedure for the effective control of pyorrhea are diagnosis, balancing of occlusion, instrumentation, mouth hygiene and tissue stimulation, necessary restorations, and periodic prophylactic treatments. The entire course of practical college instruction has been divided into sections, one of which has appeared each month, with results gratifying alike to publishers and readers.

236—Tempestini, Dr. Omero (Univ. of Palermo): **Gengivite ipertrofica da disormonismo sintomo patologico di puberta.** Hypertrophic gingivitis due to pathologic dyshormonism at puberty, in: Stomat., xxx(8): 723-748. Aug., 1932.

The author records the anatomo-pathologic concepts of the so-called hypertrophic gingivitis and discusses the pathogenesis of such forms with special reference to the constitutional and hormonic factors involved. These hormonic disturbances show themselves especially during the different phases of the sexual life of the female organism, as does also gingival hypertrophy with great frequency.

The author notes that in many cases described by authors of the past allusion is made to the endocrines or the dyshormonism and their relation to the gingival pathologic condition. He describes a striking case (girl of ten years) in which the hypertrophic gingivitis appeared at a precocious sexual maturity due to lack of ovarian and hypophysial hormones. In brief in the author's opinion the etio-pathogenetic factors underlying the gingival hypertrophy are evidently in correlation with the hormonic imbalance.

—Transl.

237—Tempestini, Dr. Omero (Univ. of Palermo): **Il comportamento della tiroide, della preipofisi, della paratiroidi e delle capsule surrenali nella carie dentaria e nella paradentosi atrofica.** Thyroid, hypophysis, parathyroid and suprarenal capsules in dental caries and atropic paradentosis, in: Stomat., xxx(11): 1017-1053. Nov., 1932.

In this article the author stresses the importance of further study of the internal secretions in regard to the physiologic constitution and pathology of the dental system. He reviews the current literature at length and points out the need for extended study of the different glandular groups in view of their hormonic correlations, always best demonstrated in pathologic conditions. The functioning as well as the functional correlations of the respective glands are shown in long tables of individuals with caries and with atrophic pyorrhea.

—Transl.

(e) Symptomatology and Diagnosis

(Continued from page 154)

151—Bauer, Dr. Andor (Budapest): **Über Zahnfleischblutungen.** Gingival hemorrhages, in: Z. Stomat., xxx(8): 449-455. 1932.

Bleeding of the gingivae is one of the most frequent complaints of patients, the causes of which differ widely. The author has immediately undertaken a blood examination in his cases, where either the local condition seemed not to explain the symptom, or where the intensity of the hemorrhage pointed to systemic disease. Thanks to this method of procedure, he has had more chance to diagnose acute leukemia and agranulocytosis.

The gingiva is one of the most sensitive

indicators of general organic conditions as well as of local disease processes in the oral cavity. The thoughtful physician will bear in mind the reciprocal relation between the gingiva and the other parts of the organism which rests on an anatomical foundation. The oral mucosa occupies anatomically a position protected against infection which protection must be disrupted before infection takes place with hemorrhage as its first sign.

Hemorrhage may be (1) a sign of inflammation due to local processes (concrements, overhanging fillings or crowns, sharp tooth margins). From a simple gingivitis or stomatitis, Gottlieb's Schmutzpyorrhoe may develop. Diffuse atrophy itself does not belong in this group; as has been shown by Weinmann it is related to metabolic processes. (2) due to groups of general systemic diseases purpura hemorrhagica, pernicious anemia, the various leukemias, avitaminoses, functional disturbances of the ovaries (changes occurring in menstruation and pregnancy). (3) finally, to systemic poisoning, especially metallic; Pb, Bi, Hg, P, etc.

Treatment consists in careful cleansing of the oral cavity, painting with mild astringents. A dentifrice containing alum may be prescribed and gum massage with alcohol. Author opposes the use of copper sulphate and in general the use of all medicaments tending to coagulation necrosis. In general disease and metallic poisoning, the intra-oral measures are of secondary importance to the work of the practical physician; but neither internist nor dentist can do without the other.

—Transl., H. A. R.

152—Bourgeois, Henri: **Ulcération nécrotique de la langue.** Necrotic ulceration of tongue, in: Annales d'Oto-Laryng. June, 1932. Rev. de Stomat., xxxiv(11): Nov., 1932.

Patient presented himself with an internal gingivo-stomatitis around a number of carious teeth along with an extremely painful lesion of the tongue. The entire posterior half of the right side of the tongue was occupied by an ulcerated area covered with infected débris, among which large fragments of gangrenous epidermis could be lifted by the explorer. However, in spite of this necrotic aspect, the lesion was quite superficial. A diagnosis was made of fuso-spirillary ulceration due to dental lesions. Wassermann test negative; fuso-spirillary organisms found in stained smears.

Treatment consisted in frequent cleansing of the teeth and gums with sodium perborate, followed by rinsing with weak aqueous solution of phenol. Daily touching with novarsenobenzol. Rapid amelioration.

—Transl. of abs., H. A. R.

153—Box, Harold Keith, D. D. S.: **The prevention of periodontitis,** in: Oral Health: p. 480. Oct., 1932. Abs. Dent. Outlook, xx(1): 33. Jan., 1933.

The author, among other things, reminds us of a new generalized classification of periodontal disease. Under the heading of so-called pyorrhea in humans, there are two pure types involving pocket development and pus-formation commonly presented. Clinical entities with distinct grouping of symptoms, pathological findings and treatment, their general recognition is obviously of great importance.

While within its strict meaning the term pyorrhea means pus-flow, it is nevertheless now popularly accepted to indicate gingival suppuration, and it is hardly necessary to point out that its usage in dental nomenclature is of little value unless properly oriented to its different etiological and pathological backgrounds.

In the first type, pocket-formation is an early symptom and precedes tooth mobility with gingival inflammation a predominating feature, and deposits, as a rule, abundant. The pocket is usually wide, shallow and fairly slow in development with a predilection for the interproximal tissues, an exception being in cases of mouth-breathing. This disease is designated as simplex periodontitis and corresponds with the "Schmutzpyorrhoe" of Gottlieb.

In the second type, termed complex periodontitis, the predominating symptom is not to be found in the gingival tissues. Pocket formation has been preceded by profound structural changes in the deeper supporting tissues which have been introduced in early motility. The pocket is usually deep, narrow and fairly rapid in development. It occurs, as a rule, on the line of function, and on the side of tension or pull, and the base varies in position as related to the pocket opening.

—Copy.

154—Cleef, Dr. Max, Van: **Untersuchungen ueber Paradentose bei depressiven Geisteskranken.** Studies of paradentosis among depressives, in: Paradentium, iv(5): 147-152; (6): 167-176. 1932; v(1): 17-23. 1933.

The author of this long and comprehensive treatise summarizes his work in part as follows:

(1) The pathologic somatic concomitants or manifestations of depressive psychoses are largely of a vegetative nature.

(2) Paradentosis usually develops through circulatory derangement, such as trophoneuroses originating in vasomotor anomalies.

(3) Paradentosis is more usual in the depressive type than in schizophrenic or other non-depressive types.

(4) Paradentosis in depressives—so far as it cannot be referred to other causes—is important as a vegetative disturbance, just as other vasomotor disease manifestations are somatic expressions of the depressive type.

The author's researches were carried on in the Wittenauer Sanatoria near Berlin on 301 patients, (149 men and 152 women) 207 were non-depressive; 94 showed depressive conditions; about 200 schizophrenics, unselected, served as control material. 58 depressives, (male and female) or 61% had paradentosis, while only 47 non-depressives or 23% showed this disease.

—*Abs., H. A. R.*

155—Crane, Arthur B., D. D. S., Kaplan, Harry, D. D. S.: **The recognition of pyorrhea alveolaris and what constitutes a cure,** in: Dent. Items of Int., liv(9): 660-671. Sept., 1932.

The name pyorrhea alveolaris is used by the authors, because they believe it has the advantage of long usage and popular recognition. They stress the importance of a more thorough and careful clinical and radiographic examination, making it possible to recognize, prevent, and possibly control progress of the disease. Local pre-disposing factors are of more direct importance than systemic. The failure to recognize the symptoms in youth is responsible for the opinion that pyorrhea alveolaris cannot be cured.

A knowledge of what constitutes the normal, as a basis for observation, a complete intelligent, radiographic examination, and a check of occlusion, in centric and lateral relation, are all necessary requisites of a successful operator.

"That pyorrhea alveolaris can be absolutely cured by correct surgical procedures, is a fact capable of acceptable demonstration. However, such operations, no matter how carefully performed, will prove to be disappointing and will often fail, unless definite precautions are observed in the selection of cases and in the post-operative care."

The ideal time to operate is in the early stages of the disease, and very satisfactory results may very often be obtained even in well advanced cases. Enough healthy bone must remain to furnish adequate support, and added to this, the occlusion must be susceptible to successful correction without too much destruction of tooth substance. The hearty co-operation of the patient in toothbrush stimulation and mouth hygiene is very necessary to successful treatment.

Alveolar destruction into the bifurcation does not necessarily condemn teeth to extraction. The authors state further that practically all authorities are in accord that pyorrhea alveolaris is not cured until there is a complete obliteration of the pockets. Unless pockets are less than 2 mm. in depth, the pathological condition still exists and will reëstablish the disease. Of many methods of treatment, it is open to question, however, if any method other than surgical elimination reduces the gingival crevice to normal depth, except after prolonged and continued treatment, and then it is doubtful if there is any reattachment of tissues.

"Inasmuch as the surgical operation offers a prompt and certain method of eliminating pyorrhea alveolaris, it should be the method of choice in the treatment of this disease, even in its earliest stages."

—*C. C. S.*

156—Fischer, István: **Die Frage der Paradentose (bzw. pyorrhóe) in deutscher, oesterreichischer und französischer Beleuchtung.** The problem of paradentosis (so-called pyorrhea) in German, Austrian and French interpretations, in: Fogorv. Szemle, xxiv: 257-64. 1931. Abs., D. M. f. Z. 1(2): 276. Mar. 15, 1932.

The chief interpreter of the German paradentosis research is Weski, whom we have to thank for the introduction of the concept "*paradentium.*" The founder of the Austrian school is Gottlieb.

After a description of the diagnostic and therapeutic ideas advanced by both schools, their characteristics are differentiated. In France, the paradentosis research has a long past (Bourdet distinguished between paradentosis and senile atrophy in the year 1786). After a short historical review, the author outlines the opinions of a long list of authors and shows that, from the French point of view, paradentosis is a complex disease, the endogenous and exogenous causes of which are clinically different. For this reason the designation "paradentosis" was introduced as preferable to the name "pyorrhea."

—Transl. from article, H. A. R.

157—Fixott, Henry Cline, D. M. D.: **Periodontal diagnosis and the roentgen rays,** in: J. Am. Dent. A., xix(2): 928-935. June, 1932.

A restatement of accepted facts.

Remove all doubt as to oral conditions by making a complete roentgenographic examination. Author recommends taking bitewing films in addition to the regular films. He doesn't claim the whole truth is revealed by them because of tissue densities at different angles. Their story must be correlated with clinical history, and physical examination.

He discusses the roentgen rays: (a) as an asset; (b) as a liability.

The author points out the error in permitting technicians to attempt their interpretation and the greater wrong in the dentist or physician permitting them to do so.

He points out that more than 25% of all contributing causes of periodontal disease are not revealed without such examination.

Statistical studies showing conditions in complete radiologic examinations of one thousand patients reveal that thirty-six and five-tenths per cent of all teeth show evidence of bone resorption from the beginning to the coronal one-third of the root, and 13.4 per cent of all teeth have deep pockets and bone resorption extending beyond the coronal one-third of the roots. Some form of periodontal disturbance involves 49.9 per cent of all teeth.

—J. L. W.

158—Koblin, H. A.: **Zur Ursache der symmetrischen Schwellungen der Zahnfortsätze.** On the cause of symmetrical swellings of the alveolar processes, in: Virchow's Archiv.: 283: 631-652. 1932.

The author describes six (6) cases clinically, radiologically and histologically analyzed; and differentiates between gingival hypertrophy, symmetrical fibroma and osteofibroma. In the first two the swelling affects the soft tissues but does not seriously involve the bone. But in the last there is simultaneous involvement of bone and soft tissues.

—Transl., H. A. R.

159—Lehoczy, Tibor: **Facial and oral symptoms of nervous ailments,** in: Budapesti orvosi ujság., xxx: 913-20. Sept. 29, 1932. (Abstract) D. M. f. Z., li(10): 480. May 15, 1932.

—Art. not available.

160—Niles, John Gilchrist, D. M. D.: **Early recognition of diabetes mellitus through interstitial alveolar resorption,** in: D. Cosmos, lxxiv(2): 161-164. Feb., 1932.

"In his communication Dr. Niles reports several cases in which the patients were suspected of having diabetes, the suspicion having been aroused because the author had come to "consider all patients complaining of symptoms of acute pyorrhetic lesions potentially diabetic until a routine urinary examination denotes them to be free of glucose." To quote further:—

"This investigation has proved most interesting. In view of the absence of all general diabetic symptoms, one is almost compelled to the belief that interstitial alveolar loss is one of the earliest sequences of diabetes mellitus, with perhaps an etiological relationship. The successful treatment of any disease depends a great deal upon its early recognition. This is strikingly the case in diabetes mellitus. These cases present convincing argument in favor of continued dental investigation in this field, and the author knows of no better way of attempting to interest the dental practitioner at large in this problem."

—Abs. in Dental Survey, viii(12): 55. Dec., 1932.

161—Orbán, Dr. Balint (Vienna): **Diagnose und Therapie der "Pyorrhöe."** Diagnosis and therapy of pyorrhea, in: Z. Stomat., xxx(2): 61-78. Feb., 1932.

Orbán follows the Gottlieb classification in lieu of a better. The pathology of "Schmutzpyorrhöe" and of diffuse atrophy which in a later stage is accompanied by paradental

pyorrhea is then discussed. A differential diagnosis in cases where local therapy is needed is not highly significant, since the same treatment must be used in each of these three forms. This treatment consists primarily in elimination of the pockets and next in treatment of secondary effects. Various methods of pocket elimination are mentioned and left to the individual judgment.

The instruments used are carefully described at length and especially the Dunlop method and its technique, which can be advantageously combined with other methods of treatment as the continuous spray, blue stone, salvarsan, etc., in the control of ulcerous gingivitis. The paraffin pack is useful also in cases of gingival inflammation where bridges or crowns are at fault. After instrumentation for the removal of tartar, the tooth surfaces are polished with pumice, rubber cups and thick dental silk or fine linen strips. The dentist should be equipped with a face screen since particles often fly and may cause serious injury to the dentist's eyes.

Diffuse atrophy and the accompanying paradental pyorrhea are next discussed with a general survey of the history and literature of the subject, the histology of the periodontium, the causes and mechanism of shifting teeth. The researches of Gottlieb, Weinmann, Citron, Boenheim and others are of value especially as they not only justify but necessitate the twofold classification of pyorrhea.

As regards the therapy of diffuse atrophy, this must be considered from two viewpoints, local and general. Locally, the author mentions corrections of articulation, grinding of cusps, splinting of loose teeth, filling of empty spaces, etc. The general treatment cannot be handled by the dentists but by a physician, in order that he may be able to influence favorably the cholesterin or bilirubin metabolism, inner secretory disturbances, especially ovarian which must be dealt with.

But the dentist may and should investigate the diet and unless special diet is ordered by the internist, he may recommend the use of much carrots, cabbage and other green vegetables; little meat, and that replaced once or twice a week by liver. Oxygen insufflations are recommended.

—*Transl., H. A. R.*

162—Pitts, A. T.: **Clinical observations on some dental conditions.** Generalized hypertrophy of the gums in children (see p. 526), in: Birmingham (Eng.) Med. Rev. Abs., J. Am. Dent. A., xix(3): 525-6. Mar., 1932.

Copy. "The author cites two cases, one in a girl aged 5½ and the other in a boy, aged 2. This is a condition of true hypertrophy of the fibrous tissue, noninflammatory and very rare. In the first case, the deciduous teeth were removed, the bony septums between the teeth and the inner and outer alveolar bone "were "nibbled" away and the redundant gum both labially and lingually was excised in two long strips. Free hemorrhage was controlled by suturing the raw edges together. Sixteen months later, the gum around the second deciduous molars was practically normal and the first permanent molars had erupted with normal gingival margins. When last seen, the gum round the permanent incisors was definitely thicker than normal, but the condition was much improved.

The other case was treated in the same way at 3½ years, but the result was not satisfactory and it was anticipated that further operation would be necessary. It is suggested that this condition may be associated with lymphatic obstruction; that there may be an inborn tendency to excessive development of fibrous tissue; that it may be due to an aberration of the bone forming mechanism, or that it may be due to an endocrine disturbance.

163—Prawednikow, S. N. (Charkow, Russia): **Symptomatische Behandlung von Paradentosen (sog. Alveolarpyorrhoe).** Symptomatic therapy of paradentosis (so-called pyorrhea), in: Zeitschr. Stomat., xxx(2): 85-90. 1932.

The problem of alveolar pyorrhea always remains the subject of endless scientific discussion.

1. So long as the etiology of pyorrhea alveolaris is not fully established the treatment can only be symptomatic.

2. Of all methods of symptomatic treatment, only those may be considered rational which cover all the manifestations of disease present,—not any one aspect only.

3. Curettage (method of Sachs) in combination with vibratory massage and local rivanol or neo-salvarsan therapy results in improvement in 80% of cases and in com-

plete disappearance of all evidences of disease in 50% of cases.

4. The Neumann operation should be used only in those cases where curettage cannot be employed.

164—Türkheim, Prof. Dr. Hans., and Rudolf Hanssen (Hamburg, Ger.): **Physiologische Chemie. Zahnstein.** Physiological chemistry. Tartar, in: Fortschr. d. Zhkde, viii(7): 584-604. July, 1932.

The etiology of tartar formation is not yet cleared up; while one author presents a purely inorganic explanation as, for instance, the precipitation of lime salts in a medium alkalinized by increase of ammonia or by loss of carbonic acid, others prefer the theory of colloid chemical processes or the action of microörganisms.

An unequivocal experimentation here, as to whether purely inorganic chemical ions, or whether colloid chemical reactions control tartar formation would be stimulating but unconvincing. During the year two theoretical solutions of the problem have been advanced.

Nassau seeks by analogy from colloid chemistry to explain the formation of tartar by protective colloid action. The colloids and calcium salts of the saliva together form a protective colloid calcium salt complex, whose composition is assured by stabilizing ions. Removal of these ions causes disintegration of the complex, and precipitation of calcium salts as a result. Nassau assumes that absorption of the stabilizing ions is not possible in sound tooth substance, but only in degenerated dentin, since a deposition of tartar is observed preeminently at the gingival margin. One who has ever observed the frightful deposit of tartar on bridges, vulcanite restorations and other foreign bodies will not entirely agree with the above theory, which for example, wholly excludes absorptive action of precious metals on ions of inferior quality.

The well known colloid investigator, Liesegang, does not advance colloid chemical theories in regard to the problem under discussion, but lays down purely chemical and physico-chemical principles, keeping in mind the significance of acid or alkaline reactions. Liesegang admits that, for a time after the study of some geochemic work where the statement was made that "formations of purely inorganic lime could seldom occur without the aid of organisms," he was inclined to refer tartar formation to the activity of microörganisms; for, "if Nature herself in the geologic sphere uses a simpler inorganic method of precipitation only in isolated cases, how can one affirm such a use in the higher organisms?" A more discerning study of the above-cited biologic and geologic processes, however, led him back to the purely inorganic explanation. For example, the Bacterium calcis, which on the coast of Florida separates out enormous masses of calcareous gelatinized slime, accomplishes this result merely by means of ammonia, which reacts with the calcium carbonate present in considerable amount when the calcium is separated. In many similar processes, the organisms create their own precipitant, and the reaction which follows is purely inorganic.

Loos . . . found in tartar, conjointly with pathologically altered gingival pockets, porphyrin, whose origin may be ascribed either to the inflammatory process in the pockets, or to an autolysis of the albuminous constituents of the diet.

—*Transl., H. A. R.*

165—Ullmann, K. (Vienna): **Über seltene und neue Formen der Leukoplakia mucosae Oris.** Rare and new forms of leukoplakia oris, in: Wiener Klinische Wochenschrift, xlv: 840-44. July, 1932. Abs. J. Am. Med. A. Sept. 17, 1932.

Ullmann calls attention to conditions which occasionally develop after arsenic or gold therapy or both. He then discusses the leukoplakia caused by galvanic currents due to presence of different metals in mouth restorations. Although galvanic currents which may be definitely demonstrated by microamperemeter are very weak their constant action represents considerable irritation as does also the disintegration of the metals, which gradually ensues. It is recommended that amalgam be replaced by cement or porcelain and that clasps or other prosthetic apparatus be a uniform type of gold alloy.

—*C. R.*

(f) Treatment

(Continued from page 178)

227—Asgis, A. J., ScB., M. A., D. D. S.: **The prophylactic approach to pyorrhea therapy,** in: Brit. J. Dent. Sci. & Prosth. lxxvii(1376): 147-157. Aug., 1932.

A general discussion of the current ideas regarding the causes and treatment of pyorrhea, especially those among German authorities. The author's emphasis is laid on "ulatropsis," by which he apparently means gingival revitalization. For this purpose he stresses the value of artificial massage of the gingiva, natural massage by means of coarse food stuffs, vigorous functioning of the teeth in mastication; and systemic means, such as correct diet and ultra-violet light therapy. He speaks of the study of systemic causes and their treatment as a virgin field for research greatly needing cultivation. He regards periapical foci of infection as a potent cause of lowered resistance of oral tissues.

—*H. J. L.*

228—Atta, Dr. A. (Berlin): **Jacketkronen im Dienste der Paradentosenbehandlung.** Jacket crowns as an aid in treatment of paradentosis, in: Zahnä. Rdsch., xli: 674-680; 721-729. 1932.

The author's thesis is that the greatest success in prevention and treatment of paradentosis is to be looked for in skillful fixation of the endangered tooth groups. The methods he has used for years may or may not involve devitalization of the dental pulp. Teeth which have lost their normal position and become loosened must be devitalized, but the pulps in the remaining teeth in normal occlusion are to be preserved; but these cases are few. The technique of the jacket crown and devitalization are described at length.

—*H. A. R.*

229—Bonne, Dr. ———: **Klinischer Beitrag ueber das Jod in der Therapie.** Iodine therapy, in: Medizin. Welt, vi: 1203-4. 1932. Aug. 20, 1932.

The author's description of his treatment of paradentosis is the only portion of the article of special interest here. First step is a very careful cleansing of the root neck with the aid of a small curette, following this with a thorough painting with tincture of Iodine. Thereafter, the teeth are cleansed mornings and evenings with a soft brush sprinkled with a few drops of Eau de cologne or spirit, and the gums massaged with Iodex (size of a bean). Under this treatment even loosened teeth "which had been doomed to extraction" become tightened.

—*Transl., H. A. R.*

230—Cobe, H. M.: **Gingivitis: chemotherapeusis as an aid in diagnosis and treatment:** preliminary report, in: J. Lab. and Clin. Med., xvii: 399-506. Feb., 1932. D. Cosmos, lxxiv(10): 1032; Brit. Dent. J., liii(2): 83. July 15, 1932. Abs. J. Am. Med. A., Apr. 30, 1932.

Cobe believes that chemotherapy is definitely indicated in gingival infections. The coöperation of the laboratory and the dentist is necessary in suggesting the proper antiseptic to use in the treatment of gingival infections such as streptococcal gingivitis, ulceromembranous gingivitis and pyorrhea. Gingival infections due to gram-negative organisms respond to treatment better and more rapidly than do those due to gram-positive organisms. There seems to be no basis for the idea prevalent in medical minds that the gram-positive organisms respond more successfully to the dyes than to the mercurials. Gingival cultures show a diversified bacterial flora with a large percentage of molds and 89 per cent of streptococci present in lesions. For chemotherapeutic diagnosis, inoculation by stroke and stab is necessary and direct inoculation gives the most accurate results. Merthiolate, metaphen, a mixture of acriflavine and gentian violet, and phenol were found to be the four antiseptics of highest bacteriolysis of eleven used in a series of fifty cases. In treatment, the use of two or more of the bacteriolytic antiseptics used alternately and in combination with arsphenamine has been found to give the most satisfactory results and with fewer recurrences.

—*Copy.*

231—Colburn, W. A., D. D. S.: **Classification and roentgenologic interpretation of dental surgery,** in: Dent. Digest, xxxviii(11): 396-403. Nov., 1932.

Clinical observations and interpretations of alveolar roentgenograms reveal interesting typical cases, as follows:

1. Disuse alveolar atrophy.
2. Alveolar atrophy.
3. Alveolar atrophy in the edentulous.
4. Sinated alveolar atrophy.
5. Complete atrophy.
6. Osteomalacia.
7. Pyorrhea. (Paradontitis).
8. Pericementomas.
9. Cystic pericementomas.

10. Alveolar hypertrophy.

11. Soft tissue.

A full description of each of these conditions is given with roentgenograms to illustrate.

—*S. R.*

232—Elbrecht, Dr. A. (Germany): **Die partielle Prothese als aktiver Behandlunsfaktor bei Paradentose.** The partial denture as an active factor in treatment of paradentosis, in: Zahnä. Rdsch., xli(31): 1181-88; 1221-1233; 1261-1270. 1932.

Author's conclusions.

Thorough observation of the mouth and teeth must precede any artificial restoration. Special attention must be paid to the paradentium. Whether paradental injury is present or not, the perfection of the rest bite must be assured to the farthest possible extent. There is no surety that some day the causative factors of paradentosis will not set the disease into action.

According to the condition of the tooth socket, the next step is to strengthen the paradental tissue. In regard to the prosthetic appliance, the balance must be established in articulation and occlusion and there where the teeth need a support care must be taken to insure the proper fixation. The final completion of the appliance and its relation to the rest bite must be based on static-dynamic principles.

Hence it appears that the closure of spaces is not independent technology but only one point of the entire treatment. Only by the comprehension of the clinical and prosthetic treatment is it possible to restore disturbed or lost equilibrium in the jaws singly or together, and so to relate occlusal capacity and occlusion to each other that entire harmony may exist and continue.

— *H. A. R.*

233—Gerlach, H. P. (Kiel): **Replantation als therapeutischer Eingriff bei Paradentose.** Replantation in the treatment of paradentosis, in: Dtsch. Zahnärztl. Wsch., xxxv(1): 1932.

The author describes a case treated two years previously by replantation in the presence of paradentosis. All other methods of treatment, curettage, painting, etc., had been without influence on the suppuration. The patient writes that the replanted tooth "is tighter than the sound ones." The author adds that this one case does not prove that good results are always to be expected from replantation in pyorrhea; still in an alveolar pyorrhea whose etiologic factor is traumatic occlusion, this method would seem indicated by its favorable result clinically. On the other hand this clinical history shows that, even if correction of articulatory equilibrium is the most prominent need, attention must still be given to the whole as well as a part of the organism.

—*Transl., H. A. R.*

234—Grandclaude, Charles and Ph. Lesbre: **L'infection dentaire chronique et ses métastases.** Chronic dental infection and its metastases. in: Schwz Mschr. f. Zhkde, xlii(2): 114-126; Feb., 1932.

The dental system above all forms a point of attack and a permanent focus of infection, the defiinite and essential factor of which, in the opinion of the authors, is the streptococcus, whose pathogenicity may be manifested at a distance as well as locally. To the French authors, the granulomata seem infinitely less dangerous than is claimed for them by American writers. Many good intellects have rejected the theory of focal infection because of the excessive claims made for it and the total extractions and routine amygdalectomies due to it.

However, the dangers of chronic dental suppuration cannot be denied. In two cases described the authors have been able to trace conclusively malignant endocarditis to the suppurating gingival pockets of alveolar pyorrhea.

—*H. A. R.*

235—Guéricolas, Mlle. L.: **Les vaccins injectables et locaux dans la pyorrhoe.** Injectable and local vaccines in pyorrhea, in: Rev. Odont., liii(7 & 8): 459-464. July and Aug., 1932.

"The new 'Inava' vaccines used in either the injectable or the colloid (jellied) form permit a specific vaccination against the germs most in evidence in pyorrhea. They are of interest from two points of view: (1) their composition, in accord with the most modern ideas; and (2) their form, which renders their general use possible. They constitute a valuable adjuvant to other treatments. The author reports various cases, methods and clinical observations."

—*Transl., H. A. R.*

236—Haley, Philip S., Ph. C., D. D. S.: The treatment of paradentosis by the use of drugs, packs, and instrumentation, in: D. Cosmos., lxxiv(8): 757-760. Aug., 1932.

The author quotes from Becks, "We must distinguish two fundamental forms of the so-called pyorrhea: genuine paradentosis—starts with bone disturbance and epithelium proliferation; and primary paradentitis, which starts with an inflammation due to deposits (calculus, débris, or bacteria)." He, in turn, supplements this statement with the view that inefficiency in the circulation in the paradentium, and deficiency in the vitamin content in food intake, also may aid in developing paradentitis.

Owing to the vast field in the oral cavity, able to harbor bacteria, the place of rightly selected bactericides in treatment and prophylaxis cannot be ignored.

Packing. Use of Drugs and Treatment Details

Packs of twisted cotton, to fill pockets but *not* protrude, so as to prevent any destruction of the adjacent tissue, are used, saturated with pure phenol or equal parts of phenol and water. "A few applications of phenol will break down the epithelial tissue toward the crests, and will easily destroy the culture at the pocket bottoms. Thus begins the healing process—by removal of the epithelium, superfluous gingival crests and granulation in the bottom of the pockets," says the author, and advocates Phenol rather than sodium sulphid. It removes epithelium as readily, less objectionable odor, and removes useless fibrous tissue clinging to cementum, at the same time acting as a sedative to pulp and pocket tissue.

A pocket thus opened is at once subject to normal saliva, and accessible to treatment for removal of all foreign substances. After scaling gross deposits, root surfaces should be cleaned with application of 5 to 10% solution of hydrochloric acid, which should be neutralized frequently by applications of hot boric solution. Packs carrying aconite may be used after the acid application to relieve sensitiveness.

The future of treatment of pyorrhea lies with oral chemistry rather than against it, for an operator must do two things: kill the culture quickly, and prevent the massive regrowth of which bacteria are capable. In ulceromembranous gingivitis, the arsenicals and bismuth preparations are most useful as spirillicides.

Malocclusion must be corrected, for it is always an irritating factor, tending toward reinfection by lowering resistance.

Home Care. Taping teeth at necks under free margin with flat waxed silk, suitable brushing system, and stimulation of membrane tone, the last to be accomplished by eating hard foods gradually, brushing technic, and use of cold water as a mouth wash.

Weather changes are conducive to paradentitis of the acute type.

—*C. C. S.*

237—Johnson, R. E., D. D. S.: Gingivectomy and its indications in the treatment of periodontoclasia, in: J. Mich. Dent. Soc., xiv(7): 151-156. July, 1932.

Dr. Johnson recommends that every conservative method be used in the treatment of periodontoclasia before resorting to surgery. The general indications for gingivectomy which he outlines are as follows:

"(1) Deep proximal pockets and bone loss with little recession, especially between posterior teeth. (2) Where a wall of tissue is in the way for adequate cleansing. (3) Where the tissue is very hyperplastic and resection will reduce the pocket more rapidly and efficiently than by massage. (4) In cases of chronic ulcerative stomatitis or trench mouth, where the interdental tissues are destroyed for some depth and the buccal and lingual tissues remain intact. (5) Where the gingiva is hypertrophic so that it covers the tooth to the occlusal level or forms a bulging mass between the teeth."

He describes three techniques for the removal of this tissue viz; application of caustic drug, straight resection, and a flap operation where the mucosa is laid back, desired granulation tissue and bone removed and the mucosa trimmed and stitched back to cover the exposed process.

1. Caustic drug used is trichloracetic acid.

2. Straight resection. This method is indicated where a wall of tissue is in the way for adequate cleansing, or where the tissue has become very hypoplastic. Technique as follows:

"The gingivectomy is performed under novocaine anaesthesia. Before an incision is made, the field of operation should be isolated from saliva by gauze sponges, the tissue sponged with an antiseptic solution such as 3% iodine solution, 5% mercurochrome, S. T. 37, or other mild solutions . . . Vertical incisions are first made from the gingival margins to the bottom of the pockets. A second or horizontal incision is made by connecting the ends of the verti-

cal incision. A third incision, or interproximal incision, is made severing the interproximal gum. The circumscribed tissue is now removed with a periosteal elevator thus exposing the bone which presents a honeycombed, uneven appearance. The exposed bone is trimmed enough to leave a smooth surface. The buccal and lingual bone is removed to the bottom of the interproximal pockets where possible. All bone margins are beveled. The horizontal contour should simulate the normal in order to insure an easily cleansed interproximal space. Pockets on the lingual or the upper jaw are less often benefited by this operation because of the thickness of the bone as it curves away to form the palate, thus leaving a broad shelf next to the tooth after healing.

"After completion of the operation, the interproximal areas, as well as the exposed labial, buccal, and lingual are covered with Ward's pack or similar packs. The powder of Ward's pack or the pack used by the United States Army Dental Corps, is made up of zinc oxide, asbestos powder, etc. and the liquid of Eugenol and liquid petroleum. This is mixed like cement, fairly thick consistency, then rolled into cylinders two or three mm. in diameter and the length depending upon the number of teeth and the area covered. It is somewhat sticky to handle, but this is overcome by rolling these cylinders into a little of the powder. The lingual is packed first, working well into the interproximal spaces with a pellet of cotton held in foil carriers. By dipping the cotton pellet in a cold normal saline solution one may overcome any stickiness of the dressing. The pack is allowed to remain in position for ten days or two weeks. It keeps out foreign material, markedly reduces post-operative pain, and protects the raw surface until fresh granulations can form. The mouth should be kept clean after the operation to promote rapid healing. The toothbrush should be used regularly in areas where soreness does not prevent. Patients are pre-medicated with ten grains of aspirin before the operation and advised to take five grains every hour for three or four hours. If we have an extremely nervous individual, one capsule of Abbot's nembutal is given thirty minutes before operating which is very effective. Patients are advised to go home immediately and apply an ice cap to the face for at least three or four hours and with this procedure will suffer very little discomfort from the operation."

3. Details of flap operation:

"In the flap operation, or the third method, the region to be operated upon is anaesthetized, two incisions parallel to the long axis of the teeth are made; these are started at the gingival margin in the interproximal spaces and carried apically. Having separated the labial or buccal mucoperiostium from the lingual by cutting through the festoons, the flaps can be raised. When such flaps are retracted, all underlying structures are open to view. The diseased inflammatory tissue is now curetted away and the ragged edges of bone are smoothed. The mucosa is then laid back over the bone, it is trimmed to fit the curetted surface, and then sutured into place. This method is to be preferred on the anterior teeth over the gingivectomy method for aesthetic reasons, as there is a little less recession. On posterior teeth in which there are deep proximal pockets or pockets involving the lingual where the thick palatal tissue must be laid back some distance to permit open view to depth of the pocket, the gingivectomy method is most satisfactory as it will traumatize less tissue."

—*W. Y.*

238—J. Am. Med. A., xcix(12): 1014. Sept. 17, 1932.

Replying to question regarding *apthous stomatitis* during menstrual period it is suggested that diet should be bland with plenty of milk and spinach. Calcium lactate or similar preparation should be given for a week or more before period. Irritating dentifrices should be avoided. Bowels be kept open without too powerful laxatives.

—*C. R.*

239—Kirkland, Olin, D. D. S.: **Surgical treatment of periodontoclasia, modified flap operation,** in: J. Am. Dent. A., xix(11): 1918-1921. Nov., 1932.

It is agreed that the most important etiologic factor in periodontal disease is bacterial growth, with the products of bacterial fermentation, within the pocket.

The purpose of this paper is to describe a method of removing the cause, by a simple, easy, surgical technic. It is a simplified modification of the Widman technic, and found most satisfactory where single-rooted teeth are involved, and is called the modified flap operation.

Superficial scaling, prophylaxis, traumatic relief, etc., should be done before the flap operation.

When the hands, instruments and field of operation are aseptically prepared for surgical procedure, a thin narrow-bladed knife is passed vertically into the gingival crevice, following the pocket to its full depth. An incision is made in either a mesial or a distal direction through the interdental gingivae, separating it in two parts, so that one flap may be retracted labially and the other lingually. The flap may be drawn back with a fork, to provide an opening wide enough to insure free movements and an unobstructed view of the field of operation. The diseased granulation tissue is loosened with spoon-shaped curettes and is trimmed out with small shears, after which the wound is washed and sponged. The exposed roots and diseased bone are now thoroughly and expeditiously curetted.

To avoid excessive trauma, the gingivae should not be retracted more than 1 or 2 mm. beyond the depth of the pockets.

When the etiologic factors have been completely eliminated, the wounds are closed by passing sutures labio-lingually through the interdental flaps.

Stimulation of the tissues is by the use of cotton packs dipped in hot sterile water.

After thorough drying of the teeth and gums, a sterile wax dressing compound of 3 parts beeswax to one sticky wax is fused in a suitable container and painted over the field of operation with a camel's-hair brush.

Sutures should remain about five or six days.

—*S. R.*

240—Kjellgren, Birger: (Stockholm): **Significance of orthodontic treatment from the standpoint of the prophylaxis of periodontoclasia and its therapy,** in: Swedish Dent. J.: Zahnä. Rdsch., xli(27): 1142. 1932.

Malocclusions predispose to periodontoclasia partly by direct irritation of the paradental tissues, partly by abnormal pressure (traumatic occlusion). By an entire series of successfully treated cases, Kjellgren proves the value of orthodontic treatment to his own satisfaction.

—*Transl.*

241—Lang, Dr. M. (Berlin): **Erfahrungen mit Pyralvex (Norgine).** Practical experiences with pyralvex, in: Zahnä. Rdsch., xli(40): 1672. 1932.

This specific treatment of paradentosis goes a step further than the usual therapy since it takes the gingival capillaries directly into the plan of treatment. The Dunlop method by which notable results have already been achieved is specially noted on many sides only for its mechanical, superficial cleansing of the mucous surfaces. The author thinks he has found a means of directly influencing the inflammation in the capillary system itself, in Pyralvex (Norgine) which is a resorption hastening, alcoholic solution of antraquinone glucoside and salicylic acid. In conclusion it may be said that Pyralvex as causal therapy secures excellent results in the treatment of gingivitis, stomatitis of all forms (catarrhal, ulcerative and aphthous), paradentosis, and wound healing, through its antiphlogistic qualities; and certainly deserves a place in the medicine case of the dentist.

—*Transl., H. A. R.*

242—Lufkin, Arthur W., D. D. S.: **A discussion of periodontia medication,** in: The Pac. Dent. Gazette, xl(12): 606-614. Dec., 1932.

This is a very excellent summing up of various drugs and their application.

1. Drugs which prevent, alleviate and control pain:

(a) Opium and morphine well known. Dangerous to use because of habit forming and poisoning.

(b) Chloral hydrate, bromides, coal tar derivatives such as acetylsalicylic acid.

(c) Diethylbarbituric acid, first known as veronal, now barbital. Is slowly eliminated.

(d) Phenylethyl barbituric acid or luminal. Has tendency to accumulate.

(e) Luminal combined with analgesic amidopyrin is known as pyraminal. Is efficient hypnotic and analgesic.

(f) Mention is made of some of the other of the barbiturates such as allonal.

These last five groups are useful in preoperative care to lessen shock to patient.

(g) For local anesthesia cocain is considered too toxic. Novocain-suprarenin is most desirable for block or infiltrative anesthesia and ethylaminobenzoate (Parathesin) for topical anesthesia.

2. Bactericidal drugs:

These drugs are not a substitute for scaling, surgical procedures or restoration to normal function but are an advantage in decreasing the oral bacterial load.

(a) Gram-positive group of organisms as the staphylo, strepto, and pneumococci are sensitive to various dyes as mercurochrome; gentian or crystal violet; methyl or brilliant green.

(b) Gram-negative diplococci associated with the cocci group may be controlled by neutral acriflavine in 1:1000 solution.

(c) An effective combination against both cocci groups is one of neutral acriflavine, gentian violet and a mixture of triphenyl methane dyes, known as acriviolet.

(d) Vincent's infection best treated by liberation of oxygen or a specific spirocheticide. Oxygen liberators are: sodium perborate, which he considers most effective when used as a paste in the mouth; chromic acid crystals followed immediately by hydrogen peroxide; hydrogen peroxide; potassium per-

manganate; potassium chlorate; 7 per cent chromic acid.

Spirocheticides are Churchill's tincture of iodine and 25 per cent silver nitrate; mercuric chloride 1:2000 in a 50 per cent hydrogen peroxide solution; various arsenicals; bismuth. Neo-arsphenamine agent of choice, may be used in water, metaphen, glycerin, 2 per cent mercurochrome solution or at a certain stage with pumice. Recommends 5 per cent glucose solution for home use.

This author feels intra-venous neo-arsphenamine has no value in extremely acute cases involving large areas.

3. Drugs of destructive action:

These are useful in accelerating closure of a periodontal pocket and are aromatic sulphuric and also McCall's formula.

—*W. Y.*

243—McCall, John Oppie, D. D. S., A. B.: **Solving the problem of periodontal pockets with epithelial solvent,** in: Dent. Survey, viii(10): 53-54. Oct., 1932.

A solvent for epithelial tissue has been developed which destroys the epithelium, exposing the underlying connective tissue. The formula is as follows:

Sod. sulphide	70 grains
Sod. carbonate	20 grains
Water	1 ounce

244—McFarland, Harry M., D. D. S.: **Systemic effects of pyorrhea and technic for surgical eradication,** in: J. Am. Dent. A., xix(4): 651-658. Apr., 1932.

After a review of literature the author describes his own development of the Ward technique with the modifications of Kaiser, and summarizes his article as follows:

"Cultures yield virulent short chain streptococci in some cases of pyorrhea and various kinds of infective organisms in different mouths. Patients with all teeth vital suffer from systemic disease as a result of this infection. Such conditions may be just as injurious as root end infections. Surgical technic for eradication of pyorrhea has been used a sufficient number of years to prove its worth. The technic described accomplishes definite results. Patients with various systemic symptoms make an uneventful recovery after surgical eradication."

245—McFarland, Harry M., D. D. S.: **The responsibility of the general practitioner in the management of oral infection,** in: Bull. Missouri St. Dent. A., xii(9): 5-10. Sept., 1932.

This article opens with a discussion of focal infection and ends with "surgical pyorrhea," which is explained as "the removal of all diseased tissue, both hard and soft, about the teeth."

Dento-pathological processes which most often act as foci of infection are listed as "pulpless teeth, alveolar abscess, root granuloma, cyst, residual areas and periodontoclasia." The most important of these conditions is periodontoclasia, which has been proved to be a frequent cause of serious systemic complications. Definite surgical measures seem to be the only definite way to eradicate the disease and rebuild the tissues. This accomplished, many mouths may be restored to health and systemic complications avoided. Gardner (Boyd S., J. Am. Dent. A., June, 1929) is quoted to the effect that "pyorrhea plays the same role in focal infection as does infection at the apices of the teeth."

—*H. A. R.*

246—McFarland, Harry M., D. D. S., (Kans. City, Mo.): **Is the surgical eradication of pyorrhea our responsibility?** in: J. Am. Dent. A., xix(10): 1799-1802. Oct., 1932.

This is an article read before the American Society of Oral Surgeons and Exodontists at Memphis, Tenn., October 17, 1932. To quote the author:

"We perform more surgical operations in the mouth than any other specialist in surgery, and therefore are more qualified and more familiar with oral surgical procedures than any other specialist of the dental profession.

"It has been proved, that in many instances, when root-end infections have been eliminated and the disease from a pyorrheic source has been allowed to remain, the patient did not get well, but later, if the infection from the pyorrheic source was removed, the patient made an uneventful recovery.

"If we allow infection from a pyorrheic source to remain, knowing that it may cause serious complications, why do we remove teeth that have infected root ends?

"We have all been assigned the responsibility of the eradication of disease conditions in

the mouth and are confronted with the necessity for surgical treatment of pyorrhea.

"Certain types of soft tissue can be removed by the application of caustics, but in most cases, it is easier for both patient and operator to remove the tissue surgically. The technic has been perfected to the extent that the results obtained are apparently better than have been secured by any other method.

"What other specialist is so well qualified as regards professional training and equipment to surgically eradicate pyorrhea? Do we wish to assign this responsibility to someone else, trusting that they will use the proper technic?"

Some members of our specialty (oral surgeons) have been able to save countless numbers of teeth, restoring the patient to health and more than doubling their gross income as a result of this added service.

—*J. L. W.*

247—Nivard, E.: **Le rôle thérapeutique de la diathermie et de l' actinotherapie dans les affections dentaires et péridentaires.** Therapeutic role of diathermy and actinotherapy in dental and peridental affections, in: Rev. Odont., liii(7 & 8): July and Aug., 1932.

It is said that actinotherapy when applied to pyorrheal lesions is useful in evoking a localized inflammatory reaction and in the stimulation of calcium and phosphorus metabolism. The results claimed for its use are, disappearance of pus, firmness of loosened teeth and the formation of new bony tissue. Since all these occur without the use of actinotherapy the claims for its value are not very convincing.

—*A. H. M.*

248—Quinby, E. Melville, M. R. C. S., L. R. C. P., D. M. D.: **Upkeep of the adult dental machine,** in: Dent. Survey, viii(8 & 9): 76. Aug. 35-37, 76—Sept. 54, 55, 76. 1932.

In this series of articles the author compares the care of the teeth to the care of a machine and emphasizes the necessity for building and arranging the parts of the dental machine, stressing attention to nutrition, occlusion and mouth hygiene. He deals with pyorrhea from the aspects of a clinical case and gives suggestions for treatment. Under nutrition are included all biologic conditions and the attempt to establish the powers of resistance to periodontal disease on a firm basis. The alignment of the parts, or occlusion, should be fostered from the earliest developmental period of the dental machine and later treatment must include restoration of function by the correction of malocclusion. A definite technique of mouth cleansing must be instituted and in the last analysis treatment for pyorrhea must emphasize the most important health measures, which are thorough and constant attention to diet and cleanliness.

—*H. A. R.*

249—Rose, Edward D., D. D. S.: **A conservative method of treating periodontal diseases,** in: Dent. Economics, May, p. 18 and June, p. 10, 1932. Northwest Dentistry, xii(1): 1-10. Apr., 1933.

A very good clinical paper detailing the author's method of treating periodontoclasia and Vincent's infection. The method of periodontoclasia treatment consists in a combination of the Carr method of root surface treatment and polishing of roots and crown, the McCall method of removing the epithelial lining of the pockets with sodium sulfide, the Box method of sealing the blood clot with varnish and protecting it afterward, the Morton method of restoring occlusal balance by a combination of judicious grinding, orthodontic readjustment and mechanical restoration; and a method of dietary regulation, the chief emphasis being laid on vitamin C and D, and the value of raw milk, sufficient water and proper elimination. The Charters and Stillman methods of mouth care are used. The author believes reattachment of the tissues to the tooth is usual, and that treatment is unsuccessful and must be repeated if reattachment is not completely attained.

The treatment of Vincent's infection is a combination of systemic therapy. 2cc. of bismuth sodium tartrate (% solution not given) injected intra-muscularly by a physician at two day intervals from three to five times, with local treatment which consists of mopping the mouth thoroughly with 5% chromic acid solution followed at once by peroxide of hydrogen. This in turn is followed by dropping one half teaspoonful of sodium perborate back of the anterior teeth and letting the patient distribute it to all tooth surfaces with the tongue, retaining it in the mouth until uncomfortable. This treatment is repeated daily. Home care con-

sists of rinsing the mouth at hourly intervals alternately with sodium perborate and undiluted S. T. 37 solutions. When soreness subsides, toothbrushing is undertaken followed later by usual prophylactic treatment and dietary advice. In very young children the injections of the tartrate plus measures for alkalinization and elimination (dose of milk of magnesia) plus daily administration of orange juice (2 glasses) are sufficient without local therapy.

—*H. J. L.*

250—Rosenthal, Dr. Betti, (Wiesbaden): **Die Therapie der Paradentose durch Gewebsalkalisierung.** Treatment of periodontoclasia by alkalization of the tissues, in: Zahnä. Rdsch., xli(13): 505. 1932.

Therapeutic alkalization in periodontoclasia depends on pathologically altered local reactions in tissues, cell functions and tissue fluids. The familiar clinical picture of paradentosis is described; the hyperemic gingivae, hypertrophic livid interdental papillae, the pyorrheal process. The tooth is robbed of its protecting circular ligament and the subgingival concrements which consist partly of fibrinous exudates from the loosened gingivae are a constant source of irritation. After a brief survey of the subject the author discusses the treatment of paradentosis modified by himself and used for about twelve years with the most favorable results. Locally, feebly concentrated alkaline buffer solutions with introduction of an alkaline salt. Internally an alkaline water cure is added with an alkaline salt used as dentifrice.

The conditions for alkalization are specially favorable in paradentosis; the alkaline salts can be brought directly in contact with the loosened periodontal tissue. Mineral waters were formerly much used in periodontoclasia.

The author uses pyoktanin for 48 hours. A thorough prophylaxis is then given. Then the Ems salt treatment is begun; the gingivae are massaged with the Ems salt, which is also used in sprays and injections. After six treatments, improvement is plainly manifested.

—*Transl., H. A. R.*

251—Rosteck, Dr. (Bremen): **Ueber Paradentose, Mundschleimhauterkrankungen und Jod-Kaliklora.** Paradentosis, lesions of the oral mucosa and Jod-Kaliklora, in: Z. Stomat., xxx(21): 1374-78. Nov., 1932.

Summary.

1. An important presupposition in the treatment of paradentosis and all forms of stomatitis is the careful removal of calculus.

2. The therapeutic as well as the prophylactic result of use of Jod-Kaliklora tooth paste (containing potassium iodide, etc.) is according to the author's observations, outstanding in all inflammatory affections of the gingiva and mucous membrane. All the author's patients who suffered from recurrent gingival inflammations tell him that the oral cavity feels healthy as never before.

3. The Potassium iodide tooth pastes in both forms achieve a result never before attained by him in the treatment of paradentosis. The stronger form removes the hypersensitivity of the cervices extensively and rapidly.

4. A special advantage is the facility of home treatment by daily mouth care. Toxic effects have never been noted.

5. This preparation appears without doubt destined to relieve the dentist of much labor in daily practice and to make for him grateful patients.

252—Rute, Edoardo, De: **Il trattamento della piorrea alveolare con il neosalvarsan.** Treatment of pyorrhea alveolaris with neosalvarsan, in Odont., xxx: 1005. 1932.

To obtain a good result in the author's opinion a complete neosalvarsan treatment must be given, with one or two intra-venous injections as well as intra-gingival injections and instillations of a glycerine solution (15%). These treatments can be alternated in severe suppurative cases with vaccine therapy, provided that the two methods do not oppose but complement each other. Such treatments have a great prophylactic value in cases with simple alveolar recession. By its means the author believes that an incipient pyorrhea may be avoided.

—*Transl., H. A. R.*

253—Stones, H. H., M. D., Ch. B., B. D. S.: **The surgical treatment of pyorrhea alveolaris,** in: Dent. Record, lii(8): 393-400. Aug., 1932.

Author's abs. as forward.

1. The technique of eradicating the pockets and occasionally trimming the alveolar margin is described.

2. Instruments designed for the operation are illustrated.

3. The whole mouth can be treated at one sitting.

4. The flap operation, in which the gum is reflected before scraping the alveolus and finally sutured, is not advisable.

5. Pyorrhea can be eradicated by surgical measures in cases favorable for treatment.

6. Recurrence of the disease is due to: (a) Lack of suitable preliminary treatment. (b) Insufficient attention to detail when performing the operation. (c) Lack of suitable post-operative care by dental surgeon or patient. (d) Selection of cases not suitable for operation.

—*Copy.*

254—Talbot, F., L. D. S. (England): **Actinotherapy applied to dental surgery,** in: Brit. Dent. J., liii(6): 381-388. Mar., 1932.

"Where the powers of resistance are low . . . pyorrhea destroys the alveolar tissues unchecked, in spite of the most careful and skillful application of antiseptics and surgical procedures; where the resistance is high the teeth and the alveoli successfully withstand local conditions which in themselves are obviously predisposing conditions . . . Teeth which are affected with pyorrhea . . . have frequently to be extracted in order to eliminate the heavy infection which is judged to be the essential cause of infective arthritis or other systemic infection. The removal of a large number of such teeth at a single operation is a dangerous procedure throwing a large quantity of toxin into the blood stream with disastrous results, which have been recorded frequently but far less frequently than they occur. It is obviously far better practice to destroy the floating toxins in the blood stream by general irradiation, and to increase the patient's resistance to infection, before attempting surgical interference. Two first erythema doses immediately before the extractions will effect this . . . "

The author states further that with general irradiation, the gingivitis is cleared up, the bone is consolidated around teeth and the onset of pyorrhea may be prevented. This would lead us to expect that early cases of pyorrhea would respond to irradiation, and this expectation is justified. The most promising type of case is the young, adult, sunstarved town worker, with little or no tartar formation or pus; the treatment by light doses must of course be accompanied by better hygienic habits and increased vitamin intake.

255—Thompson, Wm. E., Jr., D. D. S.: **Some observations on Keilty's method of treating gingivitis,** in: D. Cosmos, lxxiv(11): 1090-1091. Nov., 1932.

In recent years a great deal of interest has been shown in a method, devised by Keilty, which purports to select the drug or drugs offering the best chance of successful treatment of gingivitis. Living organisms from mouth smears are examined. Various antiseptics are added to blood agar, and these are inoculated with material collected from the gingivae. The antiseptics which had been added to the media on which no growth appeared are regarded as specially suitable for the particular case under treatment.

Some faults were found with this method, so the writer and his associates changed the method of determining the organisms, and applied the antiseptics, as given in this article. From these results the deduction may be made that the antiseptics used fall into three classes.

The first class, and usually the most effective clinically contains methaphen, merthiolate, acriviolet, gentian violet and acriflavin.

The second class, of mediocre value, includes subidin, chromic acid, rivinol, argyrol and hexylresorcinol.

The third class, detoxol, mercurochrome, neo-silval, copper sulphate, potassium permanganate and sodium perborate is of little value. Sodium perborate's antiseptic action depends on the liberation of free oxygen. Naturally, this is not available under the test-tube conditions. The variance of copper-sulphate cannot be explained.

The writer feels that if the operator will use the drugs in class one, and will apply them according to the method advocated by Keilty and Vastine, with proper scaling, regulation of diet, proper mouth hygiene, along with any needed dental restorations or traumatic relief the results in treating gingival disease will be better than those obtained by the more common methods.

—*S. R.*

256—Tishler, Benjamin, D. M. D.: **Periodontia for the general practitioner,** in: D. Items of Int., liv(7): 510-517. July, 1932.

For the general practitioner, the problem of periodontoclasia is one of prevention and early treatment, beginning with patients twelve years of age. The viewpoint must be biologic, understanding that disease symptoms are not always primary, as in the case of "diffuse alveolar atrophy." Early radiographic diagnosis is important, especially, the bite wing film.

The occlusion demands study and proper corrective measures. The value of scientific toothbrushing and oral hygiene must be stressed to the patient and coöperation demanded.

Conservative methods of removing root deposits are best for the general practitioner. Medicaments should only be used when Vincent's infection is present, since pockets are present in practically every case of Vincent's infection.

Every dentist should study diets of patients as a routine procedure, and also record constitutional disturbances relative to periodontoclasia.

—*C. J. C.*

257—Torrens, R. G., B. A., B. D. S.: **Pyorrhea and hygiene—some facts and possibilities,** in: Brit. Dent. J., liii(2), (3): 124-128. Aug., 1932.

In the treatment of pyorrhea pockets the author uses a ½% solution of mercurochrome in a glycerine and starch paste, made up in collapsible tubes with a special nozzle to be used on the ordinary tooth paste tube. The needle employed is about 1 mm. in diameter and made of stainless steel. Experimental models so far constructed work well. The mouth of patient is first thoroughly cleansed with brush, floss; thorough massage of hydrogen peroxide into the interspaces is followed by syringing of the pockets with the mercurochrome mixture.

—*H. A. R.*

258—Turner, J. G., L. D. S., R. C. S. (England): **Scaling,** in: Brit. Dent. J., liii(1), (2): 57-58. Jan. 15, 1932.

The author emphasizes the necessity of careful removal of calcareous deposits above and below the gum line. He suggests the use of sodium bicarbonate followed by tincture of iodine after scaling, allowing a few days for healing and then careful polishing of the surfaces, scaled. It is his contention that thoroughly clean teeth will never need scaling.

—*S. S.*

259—Warland, J.: **Notions sur la pyorrhée alvéolo-dentaire et son traitement.** Therapy of pyorrhea, in: Archiv. Méd. Belges, lxxxv: 147-153. Mar., 1932.

This article is an historical review of pyorrhea which is considered from three standpoints, viz: (1) anatomo-pathologic; (2) etiologic; (3) bacterial and (4) symptomatic.

(1) Bone atrophy of alveolar walls; epithelial proliferation; transformation of the ligament into granulation tissue invaded by epithelial processes. Order of these steps much in dispute.

(2) General causes: arthritism, cancerous conditions, pregnancy, menopause, arteriosclerosis, certain nervous affections. All these cause a humoral imbalance and trophic disturbances of the alveolar bone.

Local causes: trauma, prosthetic appliances, toothbrush erosions, poor hygiene; also anomalies of occlusion, the latter specially active in old people.

(3) Streptococci, staphylococci, pneumococci, etc., are present. Spirochetae have been found and treated with arseno-benzol. Results of treatment not favorable.

(4) (a) Onset insidious, slight signs of periarthritis, slight mobility, bleeding gums, etc. (b) Suppuration, pocket formation. (c) Increased mobility; the teeth fall out; suppuration may dry up but abscess and fistula remain.

The treatment is chiefly mechanical, chemical, vaccinal. Association of surgical and vaccine treatment probably gives best results.

—*Transl., H. A. R.*

260—Weinberger, Dr. Walther, (Vienna): **Versuch einer röntgentherapeutischen Beeinflussung der diffusen Atrophie des Alveolarfortsatzes der Kiefer.** Attempt to influence diffuse atrophy of the alveolar process of the jaw by roentgen therapy, in: Z. Stomat., xxx(21): 1367-70. Nov., 1932.

In hospital case of post-extraction pain, after the use of x-ray therapy, the author observed that, when these patients underwent further examination, perhaps several

weeks after treatment, there was a tightening of previously loosened teeth in the vicinity of the irradiated alveolus, in contrast to those teeth remaining loose in other parts of the jaws. He was thus led to try and influence alveolar atrophy by this means. He cites Eckstein (H), (Med. Klin. 1931, H 37. "Rapid healing of bone atrophy after use of x-rays.") Eckstein describes a case of high grade atrophy of the knee joint following thrombophlebitis in which one x-ray treatment led to rapid reparation, the joint being irradiated first from the front, then from the back; so that, not only strengthening of the extremity took place but also after five weeks an entire disappearance of atrophy. The present author reports two cases, one initial, one advanced; in both pronounced shifting and pocket formation. The author describes his technic and though well aware that his material was small and his findings not sufficiently definite, he believes that in combination with other familiar therapeutic measures, x-ray therapy is valuable in alveolar atrophy.

—*Abstract.*

261—Weiss, Louis R., B. A., D. D. S.: **"Successful treatment of pyorrhea alveolaris,"** in: Mnpls. Dst. Dent. J., xv(3): 18-19. Sept., 1932.

"Is it not our duty," asks the author "to find the most economical method?" of dealing with this disease; the answer to this is, he thinks, a thorough and exact program based on surgical elimination as introduced by Ward and modified by Black, Kirkland, Blanquie, Berger, Crane and Kaplan and many others. The step by step technique of the modified Ward treatment is described at length.

—*H. A. R.*

262—Withycombe, R. Morse: **Two phases of pyorrhea: (1) Occlusal stress in mastication, (2) Surgical treatment of the periodontal pocket,** in: Dent. Jour. of Austral. iv(2): 69-74. Feb. 1932. Abs., Dent. Record, liii(3): 143. Mar., 1933.

Withycombe says that his observations over a long period have convinced him that "no influence outside the oral cavity has any outstanding importance in the etiology and treatment of pyorrhea." *Hume* believes the important etiologic factor to be faulty metabolism; but Withycombe knows it to be traumatic occlusion.

He urges the practice of adjusting the occlusion for those individuals who are past the age for orthodontia but stresses caution not to deprive an individual of one definitely acquired function no matter how prevented without being confident of the ability to give him another.

The author does not recommend the treatment of advanced cases to the general practitioner unless he has given considerable attention to the study and practice of periodontia. A carefully described technique for conservative treatment is given and is favored more than the radical procedure.

—*H. A. R.*

(g) Home Care and Prophylaxis

(Continued from page 181)

40—Charters, W. J., D. D. S.: **Eliminating mouth infections with the toothbrush and other stimulating instruments,** in: Dent. Digest, xxxviii(4): 130-136. Apr., 1932.

The author tells us in this very instructive paper, why, what time and how the gum tissues should be artificially stimulated.

Stimulation is best accomplished by means of a properly shaped toothbrush. Dental floss cannot be used for this purpose because it enters between the soft tissues and the teeth instead of just meeting the crest of the gum septum. The floss should be used only for the removal of food débris.

The author spends considerable time in teaching the patient how to use the brush. The first sitting he devotes to the taking of an impression. From the plaster model the patient learns the various angles at which to place the brush. He takes this home for practice purposes. He demonstrates at this sitting the use of the disclosing solution. This convinces the patient, as nothing else will, of the ineffectiveness of his brushing. The patient returns in two days when attention is given the buccal surfaces and the gum septum of the posterior regions; about ten minutes is the required time. Two days later the patient is instructed in the care of the lingual surfaces. As this is the most difficult location, more time is consumed. At the fourth sitting, the patient is instructed how to operate the additional gum stimulating instruments. The instruments for this purpose are made of No.

14 metal wire, sharpened to a slender point, so curved that they may enter between the contact point and the gum septum without puncturing the tissues but inducing pressure. The lowly toothpick is also a great aid in relieving and preventing gum infections.

The paper is profusely illustrated showing the method for brushing the different parts of the mouth.

—*J. C. S.*

41—Editorial: **Mouth washes and gargles,** in: J. Am. Med. A., xcix(4): 310. July 23, 1932.

An interesting and pertinent discussion of the work of the Council on Dental Therapeutics of the A. D. A. with a concise and logical statement of the limitations of "any of these toilet articles" in treatment or prevention of disease.

—*C. R.*

42—Jaccard, René (Geneva): **Prevention of pyorrhea by oral prophylaxis** (Proc. viiith Int'l Dent. Cong.), in: D. Cosmos, lxxiv(2): 201. Feb., 1932.

(1) It is impossible at present to define the local causes of so-called alveolar pyorrhea.

(2) The term itself leads to confusion.

(3) Our knowledge of the etiology is inadequate; some consider the general systemic conditions as the principal cause, while others are of the opinion that the origin lies in the local conditions.

(4) Notwithstanding the fact that the local conditions may predispose to alveolar pyorrhea, nevertheless the physico-chemical condition, or, properly speaking, the biological constitutional condition, is of very great importance.

—*Copy.*

43—Rowlett, A. E., L. D. S. (England): **Prophylaxis in general practice,** in: Brit. Dent. J., liii(1): 113-120. 1932.

The author believes that prophylaxis is one of the most important things for a dentist to know and that every dental student should be instructed in prophylaxis as soon as he enters hospital and be expected to carry it out personally, and interest every patient he sees for conservative treatment. He recommends the use of the disclosing solution as the most economical, simple and satisfactory method of doing this and describes at length his own technic in instructing the patient in toothbrushing methods (Stillman), flossing and all other details of home care.

44—Tishler, Benjamin, D. M. D.: **Some problems in gingival stimulation and mouth health,** in: D. Cosmos, lxxiv (11): 1099-1102. Nov., 1932.

This is another of Dr. Tishler's well written papers, and deserves reading by specialists as well as the general practitioner.

The writer states that the discovery by periodontists that toothbrush stimulation will aid in maintaining the health of the periodontal tissues has enhanced the importance of this mouth toilet accessory. It is pleasing to note the increased interest in the subject of brushing shown by the profession at large. Practitioners must realize that efficiency of a toothbrush depends not on choice, but on its correct use. It is necessary that the method taught should not only remove the mucinous plaques from the teeth, particularly at the marginal gingivae and on the inter-proximal surfaces, but should develop good gingival cell tone as well.

The writer then explains minutely the correct method of brushing and brings out the little points which are essential to successful results. He suggests the use of sodium chloride tablets; a "checking up" of the mouth at regular intervals; the use of disclosing solution is urged; after-breakfast brushing and stimulation is stressed; the correct method of using the dental floss is given.

The subject is covered fully and in a most exact and interesting way.

—*S. R.*

45—Torrens, R. G., B. A.: **Pyorrhea and hygiene—some facts and possibilities,** in: Brit. Dent. J., liii(2), (3): 124-128. Aug. 1, 1932.

This article stresses the fact that it is most important to cleanse under the edge of the gum line. It is the author's belief that most pyorrhea starts at this point where ideal conditions for calcareous deposits and unchecked growth of bacteria are present. Patients are taught how to pack under the gum line a ½% solution of mercurochrome in a glycerine and starch paste. It is the writer's belief that with the regular and persistant use of the paste described, tartar deposits would be prevented from forming. He also claims, that this procedure would rout out any colonies

of bacteria which might be trying to invade the tissues at the danger line.

—S. S.

(h) Vincent's Infection

(Continued from page 188)

142—Barton, F. W., L. D. S., R. C. S.: **A case of Vincent's angina with fatal termination,** in: Brit. Dent. J., liii(1)(3): 401. 1932.

The patient, a female, aged 23, was admitted to hospital in a semi-comatose state with provisional diagnosis from a local medical practitioner of pyorrhea alveolaris and Dr. Barton was asked to see the case.

Her face was very sallow and edematous with lips swollen to several times normal size, eyes half closed, breath extremely offensive, bilateral enlargement of the glands in the neck, high temperature and rapid pulse. Examination of the mouth revealed most teeth present but loose, and except for upper incisor region the gum was necrosed right down to the bottom of the sulcus with small hemorrhages from various places. Blood examination showed severe secondary anemia and ruled out leukemia.

Treatment by topical medication proved useless as did intra-muscular injections of novarsenobenzol. Cautious extractions were commenced in the lower incisor region. Patient temporarily rallied and felt better, the temperature fell, the color improved, hemorrhages from the gum subsided and the edema lessened. Having now been in the hospital for a month, hopes of her recovery were beginning to be entertained, but she suddenly relapsed, developed paralysis of the soft palate, had severe hemorrhages from the throat accompanied by symptoms of lung infection, so that, as mouth conditions were improving, further extractions were temporarily abandoned. In spite of the renewed efforts of the medical officer in charge on January 13, following fresh hemorrhages, she relapsed into coma and succumbed to general exhaustion consequent upon septicemia.

—*Copy.*

143—Belding, P. H., D. D. S. and Belding, L. J., M. D.: **A clinical description of specific gingivitis—Vincent's angina,** in: Dent. Items of Int., liv(8): 588-590. Aug., 1932.

"Specific gingivitis is defined as a disease process caused by Borrelia Vincenti, which affects change in the tissues surrounding the tooth root which have their origin in the gums, gingivae, or periodontal membrane."

The authors, in their classification of gingivitis, give 95% specific, and 5% non-specific, with these sub-divided. "This disease may be mild, moderate, or severe. The severe is characteristically described as the acute, the moderate as the sub-acute, and the mild as the chronic, latent, incipient, or endemic form."

The severe acute type—is described as destroying the marginal gingivae, spreading rapidly to the inter-dental papillae, and the oral mucosa. They further describe all the clinical evidences that are usually associated with the acute type. The prognosis depends upon treatment. If efficiently done, favorable; if not, the general tendency is toward chronicity.

The sub-acute type, while being destructive, is not so rapid or painful, the bleeding being always evidenced upon slightest pressure.

The chronic type—90% of all cases of specific gingivitis fall in this class. The only symptom is that which appears to be spontaneous bleeding. Pain is generally absent. Brushing of teeth is always associated with bleeding, teeth may or may not be loose. Bleeding stops and teeth tighten over a variable period of time.

Microscopic studies should be made in all cases of gingivitis; if Borrelia Vincenti is found, the treatment should be specific.

—*C. C. S.*

144—Belding, P. H., D. D. S. and Belding, L. J., M. D.: **The relationship of Borrelia Vincenti to oral disease,** in: D. Cosmos, lxxiv(12): 1218-19. Dec., 1932.

The authors feel that their studies begun in 1926 and covering several hundreds of individuals of both sexes, all ages and widely distributed, justify the publication of this short article if for no other purpose than to arouse interest in the relationship between spirochetal infections and oral disease. They believe that these organisms vary as to virulence but are always pathogenic, and that their presence in the oral cavity is pathognomonic of an existing gingivitis, either gross or microscopic. They quote the obser-

vation of Stillman and McCall ("Clinical Periodontia") as to the remarkable ability of this organism to attack healthy tissue, and explain this penetrative power as due to an exogenous ferment or lytic material which aids their passage through the gingival ligament which is the natural barrier, into the anaerobic nidus of the alveolus, instituting changes there which may be carried on by secondary oral bacteria to complete alveolar destruction and consequent tooth loss.

—*Abs., H. A. R.*

145—Bertram, I. R., D. D. S.: **Vincent's infection,** in: Bull. Colo. State Dent. Assn., xi(1): 2-7. Sept., 1932.

This article is a general review of the history, etiology, bacteriology, diagnosis and prognosis of Vincent's infection. The methods of transmission are noted, especially social contact, common cup, towels, foul air, etc., and the author believes that much good may be done by making Vincent's a reportable disease. He recommends the treatment used by Box and emphasizes the importance of home care.

—*H. A. R.*

146—Bloodgood, Joseph Colt, M. D.: **Lesions of the oral cavity and of the jaws and the region of the jaws, including the temporal fossa, orbital cavity, and sinuses,** in: Int. J. of Ortho., xviii(5): 491-503. May, 1932.

Prior to 1927 leucoplakia was the most common of the benign lesions of the mouth. Since then, however, Vincent's infection has become the most common lesion of the oral cavity. A single spot is a unit and is a red area, sharply defined and of irregular outline. The center of this area may be covered with a whitish or grayish patch which is due to a superficial necrosis of the mucous membrane. The infection may be multiple or diffused and may involve the whole oral cavity, extending to the fossa and pharynx, suggesting diphtheria. It reacts readily to treatment. The next stage is a minute ulcer—not a canker sore. The ulcer of Vincent's Angina is seldom larger than a ten cent piece. The edges are not indurated like cancer nor ragged as in tuberculosis. It occurs most frequently on the gum between the teeth and in pockets about the teeth, sometimes on the edge of the tongue which comes to contact with the teeth. The organism is not found in an edentulous mouth, suggesting that the spirillum lives about the teeth, in pockets between the teeth and in the gum. The author feels confident that the chief predisposing cause is the condition of the teeth and gums. The next is neglect of ordinary oral cleanliness. The third factor is frequenting overcrowded restaurants and hotels. In diagnosis it is important that smears be made from the scrapings around the teeth and studied not only for the spirillum of Vincent's but for streptococcus and pneumococcus which live not only in the gums around the teeth but in the tonsils, adenoids and nasal passages.

Dr. Bloodgood emphasizes four factors that seem to explain the failure to cure permanently this disease.

1. Failure to recognize and remove other factors besides the spirillum causing the infection; 2. The patient's failure to clean the mouth immediately after eating, however frequent that may be, for any treatment is apt to fail if food débris is allowed to accummulate in the mouth, even for a few hours; 3. Reinfection; 4. Use of tobacco and failure to visit the dentist frequently. After cleansing the teeth the gums and pockets must be covered wih a paste of perborate of soda, a real specific for this disease, the teeth should be literally buried in this white paste. The mouth is then rinsed with warm water and the gums painted with mercurochrome. Avoid the use of strong antiseptics and caustics as they are irritating. A mild alkaline antiseptic wash is permissable—there is nothing better nor more economical than liquor antisepticus alkalinus.

This clear, lucid article should be read in full by every dentist.

—*J. C. S.*

147—Butler, Harry: **Use of hexylresorcinol in treatment of Vincent's angina,** in: Archiv. of Otolaryng., xii: 525. Oct., 1930; Abs. Am. J. Diseases of Chil. J. Am. Dent. A., xix(7): 1261. July, 1932.

Thirty-five patients with Vincent's angina, some of whom were severe cases, were treated by means of hourly swabbing or gargling, according to their condition, with a dilution of one ounce of hexylresorcinol to one pint of water, alternating with a solution of sodium perborate.

Negative smears were obtained in one week, and complete recovery in two weeks after the institution of this treatment. One-

half of the patients received local treatment with arsphenamin and glycerin, whereas the other half did not. There was no difference in the response of the two groups.

—*Copy.*

148—Clothier, H. M., B. D. S. (Liverpool): **Vincent's angina,** in: Dent. Record (Brit.), lii(1): 10-16. Jan., 1932.

This is a review of the pathognomonic signs of Vincent's infection and the author's method of treatment. He is a strong advocate of the use of tincture of iodine in the office and suggests various home treatments which were of great service in military hospitals during the Great War. Diet is an important factor in treatment. A discussion of treatment of Vincent's infection is continued by various men who relate their experiences during the war.

—S. S.

149—Cottrell, Dr. James. Cited by A. J. Cottrell, D. D. S., in: J. Tenn. St. Dent. Assn., xii(1): 18. Jan., 1932. (Hosp., U. of P.)

"The author (Dr. J. Cottrell) has observed, studied and reported several cases of infectious mononucleosis. These cases have the usual symptoms of Vincent's gingivitis, with an increase in the monocytes in the blood stream which may persist for several weeks, though the mouth manifestations usually subside in ten days."

—*Copy.*

150—Dudgeon, L. S.: **Vincent's disease,** in: J. of Laryn. and Otol., (Edinburgh.) xlvii: 188-95. Mar., 1932. Excerpt from Abs., in: J. Am. Med. A., xcviii(23).

Dudgeon says that the severity of the systemic illness in cases of Vincent's infection depends on the extent of the infection and the pain associated with the ulceration. The breath is offensive but varies in different cases according to the intensity of the necrosis or gangrene. Some of the worst cases the author has seen of this infection have followed extraction of teeth, especially when there has been much laceration of the gums. There may be evidence of infection around the remaining teeth. In other instances the gums are pallid at the outset and show little or no evidence of tissue reaction, and it is in such cases that gangrene is likely to occur. The rapidity of the pulse and the degree of toxemia are the surest indication of the severity of the illness. Investigations should be made to exclude any concurrent illness in cases of Vincent's angina.

—*C. R.*

151—Farbman, A. A. & J. C. Danforth: **Vincent's angina,** in: Michigan St. Med. Soc. J., xxxi: 535-537. Aug., 1932.

Report of a case of pulmonary abscess and interlobar empyema following the extraction of a tooth under gas anesthesia.

152—Heffernan, P.: **Four cases of fusospirochaetal disease of lungs,** in: Lancet (London) ii: 734-35. Oct. 1, 1932. Abs. Brit. Dent. J., liii(2)(9): 537. Nov. 1, 1932.

Dr. Heffernan describes four cases of fusospirochaetal disease of the lungs due to Vincent's spirochaete and the bacillus fusiformis, in which the primary source of infection was probably in the mouth. In two of the cases there was a history of a large number of teeth being extracted a short time previously. The patients developed a temperature and an irritating cough with an unpleasant taste in the mouth. Much offensive sputum was brought up. In both cases, examination of the sputum showed the presence of Vincent's organism with B. fusiformis. In the third and fourth cases pyorrhea was present.

Three of these cases were referred to the writer as being pulmonary tuberculosis. Dr. Heffernan considers that many of the so-called "T. B. minus" cases of tuberculosis have been really pulmonary affections of this type. The treatment adopted was intravenous injections of ***stabilarsan*** and this treatment appears to have a curative effect.

—*Copy.*

153—Hirschfeld, Isador, D. D. S.: **"The toothbrush—its use and abuse,"** (in serial), in: Dent. Items of Int. 1931 and '32.

(In Vincent's infection)

1. "Although the toothbrush is a potent factor in the reduction of various forms of *chronic* periodontal disease, especially marginal and hypertrophic gingivitis, it is definitely contraindicated in the *acute* conditions. (In the absence of brushing, gingival stimulation may be maintained by the frequent use

of a bland, alkaline, antiseptic mouthwash.)

2. "In diagnosing an acute hypertrophic gingivitis, one should consider at once the possibility of a Vincent's infection because it seems to have by far the greatest incidence of all acute hypertrophic conditions.

3."The hypertrophic form of Vincent's infection occurs sufficiently often to make the descriptive term "atypical" inadequate, and to justify the classification of the infection into two types, the destructive and the hypertrophic. These may be further classified according to the degree of severity as acute, subacute and chronic.

4. "The highly contagious and rapidly destructive character of Vincent's infection makes it urgent to recognize and treat the infection early.

5. "Since a bacterial finding, either positive or negative, is not an absolute guide in the diagnosis of this infection, a clinical differential diagnosis is of vital importance. In case of doubt, a therapeutic diagnosis is very helpful but when this proves negative in an acute hypertrophic gingivitis, a new diagnosis is of immediate importance because of the possibilities among others, of the rapidly fulminating and highly fatal blood diseases, the acute leukeumias and agranulocytic angina.

6. "Pyorrhea *per se* is practically never acute in its manifestations; therefore, the term "acute pyorrhea" is highly suggestive of an incorrect and misleading diagnosis. Usually the acute symptoms indicate a superimposed Vincent's infection and it is obviously necessary to treat this before the pyorrhea.

7. "In all types of Vincent's infection, *toothbrushing should be discontinued* immediately, and not resumed until at least two weeks after the final cessation of hemorrhage.

8. "Although fatalities are occasionally reported, Vincent's infection usually yields readily to proper treatment. Prognosis varies according to the stage at which proper treatment is instituted, the general health of the patient and the extent of coöperation. In many instances, the destroyed septal tissue regenerates almost to its original size and contour.

9. "Failure to take precautionary anti-Vincent measures in the mouth and throat prior to throat operations may entail serious consequences.

10. "Since the Vincent's organism can be found deeply embedded in histologic sections of gingival tissue that had been successfully treated for the infection, it would seem that they cannot be completely eliminated from the mouth. This points to the importance in postoperative care of maintaining local immunity to reinfection by means of hygiene and stimulation, which is best accomplished through the use of a toothbrush."

—*Copy.*

154—Hopkins, J. A., D. D. S.: **A review of some of the treatments for Vincent's infection,** in: D. Cosmos, lxxiv(7): 694-699. July, 1932.

The author finds Vincent's organisms under 90% of tissue flaps of partially erupted third molars; they are found in 65% of mouths examined routinely. They are almost always present if smears are taken from enough patients. He believes that the infection is a combination of low resistance and virulence of the strain of organisms, which he describes. Symptoms of Vincent's gingivitis are given and technic for making smears. Winter's classification is cited; Vincent's phagedenic stomatitis, gingivitis and angina, for mucous membrane, gingiva, and pharynx, larynx and bronchi, respectively. Hardgrove's chromium trioxide application plus hydrogen peroxide is described as one of the best local treatments; in mild cases 5-10% chromic acid may be substituted for chromium trioxide powder. Many cases of so-called pyorrhea are actually Vincent's. On the other hand, the author has seen a case of carcinoma of the tongue treated for 9 mos. as Vincent's stomatitis.

The use of sodium perborate is discussed with approval although this is better for home treatment. Acriviolet is of much value. A glucose solution of salvarsan for local application is recommended by some authors, but Dr. H. is skeptical because it will not kill organisms *in vitro*, and used intra-venously it is converted by the liver into a powerful spirillicide. It should be administered by a physician in doses not to exceed 0.45 gms. intra-venously. Used hypodermically, it is liable to sensitize the patient to arsenicals. David Smith is quoted on the successful use of sulpharsphenamine for pulmonary gangrene. For home use in gingivitis, hydrogen peroxide is recommended as a mouth wash followed by the application of sodium per-

borate paste to ulcerated areas. Or a mouth wash of one half teaspoonful Fowler's solution in a glass of water may be used; or solution (1-1000) potassium permanganate. Home treatment should be continued three weeks after office treatment is finished, as shown by negative smears. Scaling and surgery should be done, only after the symptoms are under control. If the disease does not respond to one treatment, another should be tried; but if still obdurate some condition like lues or carcinoma may be suspected. A case history of a patient who died of a Vincent's angina involving the bronchi is given.

—*H. J. L.*

155—Kellett, C. E.: **Vincent's infection in childhood,** in: Archives of Disease in Childhood, vii: 263-72. Oct., 1932.

Dr. Kellett discusses the question of when the organisms associated with Vincent's infection make their appearance in the mouths of children. Few investigations have been made on this point and Dr. Kellett was only able to find reference to it by Violle and Oshima. In order to settle this he therefore carried out an investigation of the teeth and tonsils of 168 children, using a special technique. He found enormous quantities of Vincent's organisms in the mouths of children with perfect teeth and gums who had never brushed their teeth in their lives, but in certain cases in which the toothbrush was used regularly these organisms were hard to detect. They were invariably present in lesser quantities in older children with faulty teeth and gums and Dr. Kellett regards this as being due not so much to these specific conditions, as to the fact that they made a reasonable degree of oral hygiene impossible. His results tabulated in the form of a graph show that the incidence of these organisms occurs in the second year and steadily increases up to six years, after which it remains practically stationary up to ten years and then diminishes slightly up to twelve. The graph follows closely a graph showing the age of incidence of Vincent's infection in children.

Author's summary and conclusions:

The manifestations of Vincent's infection in the child have been summarized and the peculiar age incidence emphasized.

The apparent mode of onset of the acute leukemias in childhood has been surveyed, but little support found for the hypothesis that these conditions were secondary either to Vincent's disease or other septic infection. The age incidence of Vincent's organisms was determined in the mouths of 168 normal children. It is suggested that this incidence bore a relationship to the age incidence of the maladies associated with these organisms and constituted further evidence in support of the belief that these organisms were but secondary invaders in the conditions of angina agranulocytica, infectious mononucleosis and the acute leukemias.

—*Copy.*

156—Kitchin, Paul C., M. S., D. D. S. and J. B. Brown, M. S., Ph. D.: **A preliminary report on a mouthwash for treatment of Vincent's infection,** in: D. Cosmos., lxxiv(6): 538-541. June, 1932.

From the authors' review of methods of treatment of Vincent's infection, it appeared that use of chromic acid gave most favorable results, except in more resistant cases where arsenicals seemed better. This is, however, a relatively strong acid and coagulates mucous and tissue proteins; but one of its salts, sodium dichromate is only faintly acid with very slight effect on proteins and remote danger of cauterizing action.

The authors submit the following formula of a solution to be used as a mouth wash in the treatment of Vincent's infection.

Sodium dichromate, 5 grams; boric acid, 4 grams; water to make 100 cc.

Sig: Use full strength as mouthwash once only. Then add an equal amount of water and use three times a day as a mouthwash.

The claim is made that danger of cauterizing the tissues is remote. It seems to have been tried on a very limited number of cases.

To quote: "Case data on ten patients are given in this preliminary report. Not all responded to the treatment, but a sufficient number showed clinical improvement and a reduction in the flora of the gingival crevices investigated seems to make it seem worth while to report this mouthwash for more extensive use and trial by the dental profession. In the majority of the cases so treated marked clinical improvement has occurred. The solution has decided advantages over chromic acid."

157—Mead, Sterling V., D. D. S.: **Ulceromembranous stomatitis,** in: Internat. J. of Ortho., xviii(6): 618-632. June, 1932.

The bacteriological etiological factors in this disease are the bacillus fusiformis and the spirillum of Vincent and Plaut. These organisms are often associated with the most destructive and fatal forms of disease, such as gangrenous stomatitis and necrosis. A recurrence of the disease several times impresses upon us the fact that the primary factor in the disease has been overlooked. When this occurs there should be a thorough physical check-up, noting the blood picture and correcting any irregularities in the endeavor to build up a normal blood condition. Dietary deficiencies as shown by the blood calcium, examination of the urine for calcium, phosphorus, sugar and albumin, should be corrected. Infected tonsils must be attended to. The author makes the following interesting observations:

1. Vincent's infection is most common between the ages of twenty-five and fifty.

2. The most susceptible period among females is between the ages of twenty and thirty.

3. Males—between thirty and fourty.

4. It is most prevalent during the first three or four months of the year and during the last three or four months of the year.

5. It is more prevalent among native born than foreign born and it is more common among individuals with occupations of a sedentary nature.

He also tells us that in smears made of a great many mouths both fusiform bacillus and spirilli were found and that in fifty per cent of these positive cases there were no clinical symptoms. Ulceromembranous gingivitis is primarily a necrotic or pseudo-membranous disease associated with gingivitis and periodontoclasia. The differential diagnosis presented by the author is very instructive.

The prognosis of the disease is favorable and if proper treatment is administered prompt recovery is made excepting where there is an involvement of the throat. Surgical treatment is to be deferred until the acute condition subsides, when the teeth may be partially scaled, the gums surgically treated and cavities filled. Extractions and other surgical work should be postponed until all signs of the disease have disappeared. In highly nervous patients when the gums are very painful much relief can be given by the use of a solution of bi-carbonate of soda in a glass surrounded by ice water. In the treatment he gives first place to hydrogen peroxide used in full strength. He also finds equal portions of peroxide and water in a spray bottle very effective in spraying between the teeth. He employs a ten per cent solution of chromic acid which produces nascent oxygen. Mercurochrome in three to five per cent solution, methylene blue and acriviolet in one per cent solution are useful in many cases. Caustics destroy tissue, therefore, their use should be confined to chronic conditions. He mentions trichloracetic acid up to one hundred per cent, phenol five per cent and chromic acid up to one hundred per cent. He emphasizes the value of sodium perborate because of its alkaline reaction and the fact that it liberates oxygen. He makes a paste by adding water and applies it to the membrane, allowing it to remain as long as the chemical action continues, after which the mouth is rinsed. This treatment is repeated for twenty minutes. Sodium bicarbonate, also soap, are valuable adjuncts in the treatment of the disease. The patient should be put on a normal diet, with little or no meat or sweets—plenty of fresh fruit and green vegetables. Rest, fresh air and sunshine are important.

—*J. C. S.*

158—Meistroff, C. L., D. D. S.: **Procedures in the treatment of Vincent's infection, and results obtained,** in: D. Items of Int., liv(8): 590-596. 1932.

Briefly, the field of operation is prepared prior to treatment, including removal of the pseudo-membrane, slough and débris by spraying and scaling. Unless these factors are removed, the prognosis depends only on general resistance. Therefore, the removal of all mechanical and chemical irritants is very important.

An escharotic, such as silver nitrate, is employed judiciously every twenty-four hours to rid the mouth of the membrane, and to exert bactericidal action against the organisms. Also, a deeply penetrating dyestuff is used on all the tissue involved.

The home care includes hourly mouth washes of fifty per cent peroxid with one tablespoon sodium perborate, together with strict adherence to rules of dental and general hygiene. Results recorded in a number of cases are successful.

—*C. J. C.*

159—Mowry, D. P., D. D. S. (Montreal): **A dissertation on periodontoclasia,** in: Dominion Dent. J., xliv(4): 75-80. Apr., 1932.

After anatomical necessities receive attention, functional stresses must be adjusted, crowns of teeth must be cleaned and ground or restored, tooth roots must be cleaned to the base of the pocket, thus removing all calculus, salivary or serumal. Since the soft tissue side of the crevice must be healthy, it must be curetted. This brings the discussion to the complication due to acute bacterial invasion known as Vincent's infection, as to which the classical picture of the disease by Blair and Ivy is quoted at length.

The author lists the many drugs used in this disease and then details his own procedure as follows: Rinsing with warm 5% permanganate solution; separation of necrotic areas with cotton rolls; application of Churchill's iodine, followed by 20% aqueous solution of silver nitrate applied to the surface wet with iodine for 2 minutes then washed off with a warm cleansing spray; a saturated solution of sodium perborate or ordinary hydrogen peroxide.

Sodium perborate is prescribed for home care. After daily treatment has removed necrotic areas, a prophylaxis is given, using tinct. metaphen (1 to 200).

—*Abs., H. A. R.*

160—Musburger, Lloyd E., D. D. S.: **Vincent's infection,** in: Dent. Digest., xxxviii(9): 327-332. Sept., 1932.

This article consists of practical considerations for an outlined basis for treatment of Vincent's which the author defines.

It is useful to consider five characteristics of Vincent's infection as clues to successful medication: (1) Vincent's is a local infection; (2) saprophytes are present; (3) tendency to mouth acidity; (4) both Borrelia vincenti and fusiformis dentium are anaerobic; (5) Borrelia is a spirochete.

In treatment of mouth conditions, drug therapy is not only aided by, but ineffectual without prophylaxis; mouth washes and intra-venous injections may alleviate but not eliminate Vincent's infection. The use of caustics must be avoided, the mouth acid must be alkalized; and spirocheticides must be used.

The author summarizes the situation as follows:

(1) the disease is widespread and serious enough to warrant attention of observing clinicians and qualified scientists; (2) there is much both in the field of pure science and applied medicine that we do not know about the disease; (3) nevertheless, there is a working basis for diagnosis, treatment and prognosis.

The author's outline is too long to be reproduced here, but covers terminology, history, fatalities and complications, differential diagnosis, bacteriology, etiology and treatment. The drug treatment may consist of

a. arsenicals; intra-venous injection has toxicity and death rate; its effectiveness is doubtful.

b. mercurials; mercuric chloride; metaphen; mercurochrome, etc.

c. iodides; action bactericidal rather than spirillicidal.

d. bismuth; deserves further trial.

—*Abs., H. A. R.*

161—Pittard, Jean: **Recherches sur la fréquence du bacille fusiforme.** Fusiform bacilli in men and animals, in: Schwz. Mschr. f. Zhkde., xl: 643-708. Aug., 1932. Abs. Dent. Record, lii(11): 539. Nov., 1932.

After a prolonged study of bacterial flora in the mouths of men and of a large number of animals the author arrived at the following conclusions. The distribution of the fusiform bacilli is extremely variable. In general they are found to be developing along with the other organisms of buccal infections, and graphs show the increase in their number, corresponding with any increase in the septic state of the mouth, varying, however, with individual peculiarities. There are certain sites of election for their proliferation, namely those places which cannot be kept clean. There is no evidence to support the belief that fusiform bacilli and spirochetes are related or can be transformed the one into the other; but spirochetes remain protozoa and fusiform bacilli bacteria. Their association is fortuitous, whether the mouth be inflamed or not and is only a true symbiosis in Vincent's disease where the two germs play definite parts, the one opening up and preparing the ground for the other. But even in this case the action of the microbes is only made possible by some loss of resistance to infection of the tissues. It is chiefly between the ages of 18 and 30 that men are subject

to acute infections such as the necrotic form of Vincent's angina. There is no distinction between the two sexes as regards incidence. The buccal flora of animals is very much less abundant than that of man. On the lower steps of the zoological ladder spirochetes and fusiform bacilli were more numerous than fusiform bacilli.

—*Copy.*

162—Smith, David T.: **The relation of fuso-spirochetal organisms to diseases of the mouth, gums, bronchi and lungs,** in: Bull. N. C. Dent. Soc., xvi(1): 127-129. Aug., 1932.

The best results are only to be obtained by closest coöperation between dentist and physician. The pyorrhea organisms are capable of producing infections, in tonsils, gums, bronchi and lungs. Abscesses of the same type as those in man were produced in mice by Smith; rabbits by Smith and Kline; guinea-pigs by Smith, Hamilton and Bethune; in cats by Bethune; in dogs by Crowe and Scarff, Ailen, Harkavy, and Joannides. In 1212 cases of pulmonary disease, 15% followed operative procedure about the teeth (28% followed tonsillectomy). In 60 cases of chronic bronchiectasis studied, everyone had pyorrhea. The author believes that pyorrhea is "result of chronic infection of the gums with these fuso-spirochetal organisms superimposed upon a dietary deficiency." Of the latter he distinguishes two types, the one due to calcium and vitamin D deficiency and the other to deficiency of vitamin C. In most cases both these types were present. Treatment should be directed, first to restoring diet to normal; second to destroying the organisms.

—*Abs., H. A. R.*

163—Tellier, Dr. Julien: **Considérations anciennes et nouvelles sur la pathologie générale des affections gingivo-dentaires.** Old and new concepts of general pathology of gingivo-dental diseases, in: Sem. Dent., xiii: 991. 1931; Rev. de Stomat., xxxiii(7): 385-400. July, 1932.

Author's résumé: The diseases known as alveolar pyorrheas are characterized by destructive lesions of the supporting tissues of the mouth, one of which, the periodontium ("périodonte") is described by the author in a former work as a mixed tissue, whose components, connective tissue and epithelium, are interdependent; so that whatever reaction may occur in the one automatically sets up reactions in the other,—reactions which may be synergic, or antagonistic and incoördinate, or regulating and inhibitory. Action and reaction are under control of chemical, physical or biologic factors.

Around 1898, the author had viewed the teeth and their adnexa as forming topographically one region, the gingivo-dental region. This conception corresponds to the requirements of anatomy, surgery and medicine.

Since later observations, he has come to consider the ensemble of tissues and organs of this region as forming one sole conjoint connective-epithelial organ, obeying the same laws and to be looked upon in the same manner as the periodontium.

This hypothesis more general than any of the syntheses recently advocated explains most satisfactorily the pathology of the teeth and their adnexa, particularly alveolar pyorrheas and also the general consequences of dental caries.

The study of the gingivo-dental region and of its various functional lesions in the light of these new ideas, permits at once the outlining of a more definite pathology and the installation of new methods and techniques of treatment.

—*Transl., H. A. R.*

164—Underwood, Bayford, M. B., B. S., L. D. S.: **Ulcers in the mouth (Vincent's disease),** in: Dent. Mag. & Oral Top., xlix(1): 30. Jan., 1932.

"The usual manifestation of intra-oral infection by Vincent's organisms is the generalized ulcerative stomatitis to which brief reference has already been made. It does, however, happen on rare occasions that these organisms produce a lesion localized to a comparatively small area of the mouth and when this happens the diagnosis may not be easy to make. The molar region, particularly the lower molar region, appears to be the most frequent situation for this condition to occur, and there are usually two or three ulcers surrounded by an area of red and inflamed mucous membrane. There is absolutely no induration and no pain, the diagnosis being arrived at usually by elimination of other possible causes, and by the effect of such drugs as arsenic and ipecacuanha. The spirochete and fusiform bacillus can of course be found, but as these can be found in most

mouths, that does not help much. When the diagnosis is established, it is no doubt wise to take precautions to isolate the patient, though these localized cases do not seem to be anything like so infectious as the more generalized type."

Excerpt from article.

165—White, John H., Jr., D. D. S.: **Ultraviolet radiation as an aid in the treatment of oral lesions with special reference to the treatment of Vincent's stomatitis,** in: D. Cosmos., lxxiv(10): 1015-1020. Oct., 1932.

The author's personal experience shows that u. v. radiation is of value in post-operative oral surgery, Vincent's infection, pyorrhea alveolaris and root abscesses.

The basic fundamental effects on the human organism include:

(a) stimulation of Ca, P and Fe metabolism;

(b) marked germicidal action;

1. direct on microörganisms
2. indirect through blood changes

(c) erythema (counter-irritant) action;

(d) analgesic action on terminal nerve endings;

(e) stimulation of hyperemia;

1. increased nutrition
2. increased leucytosis
3. regeneration of tissue.

Author is inclined to believe statements relative to value of this treatment in pyorrhea more or less exaggerated; still, in incipient cases, its effects may be of decided benefit. But in Vincent's infection he believes that when properly applied it is a specific. The success, however, of this treatment, while it has a very definite field is largely dependent on its intelligent use, and the operator's extended knowledge of its nature, its biologic reactions and the physical factors controlling proper dosage.

—Abs.

(i) Miscellaneous

(Continued from page 192)

64—Benagiano, Dr. Andrea (Rome): **Di un nuovo riflesso stomato-cardiaco. Il riflesso gengivo-cardiaco.** A new oro-cardiac reflex- the gingivo-cardiac, in: La Stomat., xxx(5): 463(6)521. 1932.

One of the most truly practical physiologic means of taking account of the functional condition of the system is the study of the organic reflexes, since the vegetative system is essentially a reflex organization. The present work describes a new reflex of the vegetative system which starts in the gingival region and shows itself as (1) positive—acceleration of the heart; (2) inverse—a slowing of the cardiac rhythm; (3) absent, i. e., causing no slowing or acceleration. The variation, positive or inverse varied from 2 to 3, or from 7 to 15 beats or above. The innervation of the entire mouth and the conduction paths of this reflex have been very carefully studied by the author. This reflex may be employed as a diagnostic means of investigating the sympathetic. To obtain it, physical, chemical and mechanical stimuli were used, the latter—mechanical pressure—was found most successful. The best points at which to evoke the reflex are: in the maxilla, on the internal face of the alveolar process corresponding to the last two multicuspids and of the incisors, and on the external face in a position corresponding to the canines and premolars. In the mandible, on the external face at a point corresponding to the mental foramen.

—Transl.

65—Bjerrum, O. and Hansen, S.: **Investigations on occurrence of Actinomyces in mouth cavity and significance for acute form of actinomycosis,** in: Ugeskrift f. Laeger, (Copenhagen.) xciv: 1075-78. Nov. 10, 1932. Review, J. Am. Med. A.: Jan. 21, 1933.

Bjerrum and Hansen found anaerobic Actinomyces in 27 of 112 specimens of pus from abscesses of the gums and in 20 out of 30 teeth with periodontitis. They report 13 out of 72 cases of chronic and acute cervicofacial and other inflammatory processes in which Actinomyces was found in the pus; surgical treatment in these cases was supplemented by roentgen treatment and potassium iodide. The possibility is suggested that Actinomyces in pus from cases of parulis and granuloma on the roots of the teeth may explain the origin of the many cases of acute cervicofacial actinomycosis heretofore overlooked, because prognosis after ordinary surgical treatment is good, and that diagnosis and treatment of these acute and subacute cases, and particularly observation after

treatment, might limit the number of chronic actinomycotic disorders.

—*C. R.*

66—Breitner, Carl (Vienna): **Die Wirkung der sogenannten Gaumenplatte. Befunde bei Bissperre im Bereich der Frontzähne.** The effect of opening the bite by means of a bite plate, in: Part iv. Ztschr. f. Stomat., p. 1185. Oct., 1932.

Carl Breitner observed the results of this orthodontic measure on apes by fixing over the front teeth metal caps thickened on the palatal side sufficiently to open the bite over the back teeth to about 1 to 2 mm., the six lower front teeth occluding equally upon the caps. The caps were left in position for seven weeks after which time the cheek teeth were in occlusion once more. The animal was killed, the joint and angle of the jaw were prepared and sectioned—the former showing from the newly deposited bone in the glenoid cavity that this had grown downwards—there was active deposition on the distal side of the head of the condyle and absorption on the mesial side. The angle of the jaw showed signs of activity in absorption and deposition not seen in the normal jaw, new bone being deposited on the border of the ascending ramus, ceasing abruptly at the angle passing into an area of absorption. These changes prove that the whole lower jaw had undergone a transformation as a result of opening the bite—the ascending ramus had increased backward, while the horizontal ramus, forced downwards as a result of absorption on its lower border, sought to return to its original position. Opening the bite in the front teeth had released forces which operating at the joint and on the bone of the jaw, had forced the lower row of teeth forwards in relation to the upper. This amounts to the assertion that the use of a bite plate in the front of the mouth leads to a shortening of the lower front teeth and a lengthening of all the non-occluding side teeth, a transformation of the joint and the mandible. The displacement downwards of the glenoid cavity by the deposition of new bone is apparently compensated by the absorption at the lower border of the mandible; this agrees with the clinical finding that there is no alteration in the length of the face as a result of wearing a bite plate. *Breitner* considers that as post-normal occlusion is almost always associated with an abnormally developed curve of compensation, the insertion of a bite plate, with other appliances according to the conditions present, is a valuable method of treatment for this condition.

—*Copy.*

67—Gordon, Rudolph N.: **The need for dental examination in conjunction with medical for life insurance prospects.** (Pyorrhea), in: Florida Dent. J., iii (9): 3-4. Sept., 1932.

The author believes that very limited infection in the mouth may cause a great amount of systemic toxemia. The blood count in pyorrhea gives very little evidence unless the pockets are very deep, involving the alveolar process. He traces in the words of an author not named, the pus from the pocket into the lungs, stomach colon or appendix. Many cases of appendicitis would if examined show symptoms of pyorrhea alveolaris, the same bacteria being found in the pocket and the appendiceal abscess. Cases are cited of early death after life insurance contracts and in each instance a history of pyorrhea was noted. The author believes that the careful dental examination would have prolonged life and have been of benefit to the insurance companies.

—*Abs., H. A. R.*

68—Hartmann, R.: **Zur Paradentosis.** On paradentosis, in: Fortschr. a. d. Geb. d. Röntgenstrahlen, xlvi: 158-9. 1932.

—*Not available.*

69—Jones, Martha R., Ph. D., Nils P. Larsen, M. D. & George P. Pritchard, D. D. S. (Honolulu, T. H.): **Dental disease in Hawaii. Can unerupted teeth decay?,** in: J. Am. Med. A., xcix(22): 1849-52. Nov. 26, 1932.

(Fifth in a series)

In this investigation material was collected from 140 cases including fetuses, new born infants, babies and children of all ages. Abundance of sunshine, cod liver oil and irradiated yeast do not prevent the rampant disintegration of the teeth of babies in Hawaii. Rapid decay of newly erupted teeth of babies of all nationalities in Hawaii seemed to indicate that the condition is a metabolic fault endemic in the islands. Frequently teeth are defective when they break through the gums and caries was found in many unerupted teeth. The generally accepted opinion that dental decay is caused by acid

products produced by bacteria in the oral cavity seems to be controverted by the findings, there being no evidence of bacterial invasion of the tooth crypts in any of the specimens studied. The logical explanation seems to be that a condition of acidosis in the tissue fluids was responsible for the disintegration—the chemical unbalance in some cases resulting from nephritis in the pregnant mother, in others from starvation but in the majority of instances the predominance of grain products in the diet of the expectant mother in the Hawaiian Islands and the consequent excess of inorganic acid seems responsible. Whether this condition was a fault in the original development or the result of dissolution after a more or less normal development is not ascertained but the evidence points to the latter hypothesis. Two breast-fed babies with badly decayed teeth in which the mothers' diet contained inorganic acids in great excess (with high urine acidity) were put on a diet of cow's milk, fruits and vegetables for six months.The urine reaction became normal and tooth decay was arrested.

The exhibition of caries (or an analagous condition) in unerupted teeth is noted for the first time and the investigators "believe that the conditions presented are of biological significance and offer a new approach to the problem of dental decay."

—*C. R.*

70—J. Am. Med. A., xcix(7): 564. Aug. 13, 1932.

Editorial on Teeth and Diet summarizes recent investigations on caries and in concluding says that whether the prophylactic substance is one of the vitamins or some other factor either known or as yet unrecognized, or even a combination of these in optional amounts, must await future research. Efforts to provide an improved diet are in the main rewarded with increased resistance to dental caries.

—*C. R.*

71—Treatment of black, hairy tongue. J. Am. Med. A. Jan. 2, 1932, p. 164.

Treatment of black, hairy tongue varies with cause. Some consider it congenital, others that it is caused by vegetable dyes and chemical irritants from mouth washes. Undoubtedly is sometimes due to fungous infection. Antiseptic washes containing potassium chlorate or boric acid usually correct it, but in more resistant cases tincture of iodine or electrodesiccation may be tried.

Inquiry is made (on p. 72, same issue) concerning case of black tongue without the usual elongation of the papillae. In reply it is suggested that use of tobacco be stopped; that the area be painted once a day with gentian violet solution 2 to 5%. Condition is not caused by drugs and has no serious consequences. Most cases clear up in time.

—*C. R.*

72—Jung, Dr. Karl Georg (Frankfort a/M): **Untersuchungen ueber Reizspeichel,** in: Paradentium, iv(2): 20-24, 42-50. 1932.

Author's conclusions:

1. The hydrogen-ion-concentration of the saliva in the course of 24 hours, undergoes extraordinary variations due to different internal and external forces. Diurnal curves are hence of little value without further data.

2. The reaction of saliva is dependent on individual conditions in the person examined. Comparison of case literature shows that groups of individuals may be found whose diurnal curves run to the acid or alkaline side while on the other hand, the group appears to belong together.

3. The saliva reacts normally to a given stimulant with an increased pH (rise of alkalinity). The degree of this increase differs with the individual.

4. The intensity and duration of this increased pH depends on the strength and the kind of stimulus employed.

5. This rise in alkalinity is usually accompanied by an increased secretion; thus in this way also, increased quantities of alkali reach the mouth.

6. The claim that each freshly collected specimen of saliva is alkaline since it is not yet in equilibrium with the carbon dioxide of the respired air, does not hold good.

7. The stimulus also involves changes in buffer action, viscosity and specific gravity of the saliva. These variations need further investigation.

8. The alkalescence of the artificially stimulated saliva is sufficient to neutralize small quantities in the shortest time, as they are taken into the mouth with fruit or salad.

9. Even after the successful neutralization of an acid thus introduced, the saliva remains alkaline for 10 to 20 minutes, and only slowly reaches its original pH value.

10. The reaction to acid is only of short duration, since at the moment of neutralization, the stimulus ceases to act. On the contrary with other stimuli which can only be washed out through the saliva (when even the increase of pH (rise of alkalinity) has no real physiologic "sense") the return to normal is delayed.

—*Transl., H. A. R.*

73—Hollander, Lester, M. D.: **Galvanic burns of the oral mucosa,** in: J. Am. Med. A.: July 30, 1932, p. 383.

Hollander reports 3 interesting cases of oral lesions, one leukoplakia and two apthous stomatitis-like ulcers of long standing cured by removal of gold crowns and bridgework in two instances and of amalgam fillings in another, after "all sorts of other therapy had failed."

Author concludes that his cases were obviously galvanic burns, substantiating the theory of Hodgen (quoted by Lain in Arch. of Derm. and Syph., Jan., 1932) that two dissimilar metals suspended in normal saliva as electrolyte complete a galvanic battery, and may be a relatively frequent cause of oral lesions.

—*C. R.*

74—Maggioni, A.: **Piorrea alveolare e paradentosi.** Pyorrhea alveolaris and paradentosis, in: Gazzetta degli Ospedali, liii: 385-388. Mar. 27, 1932.

—*Not available.*

75—Merritt, A. H.: **The responsibility of the family dentist in the prevention and treatment of periodontal diseases,** in: D. Items of Int., liv(6): 430-434. 1932.

The three most common periodontal diseases are: gingivitis, Vincent's infection and periodontoclasia. Gingivitis is almost universal among adults, and is often a precursor of serious disorders. The causes are local or systemic, and the treatment consists of finding and removing the cause, and teaching the patient the importance of mouth hygiene.

The family dentist must be held responsible for the prevention, diagnosis and treatment of all periodontal disorders. This obligation may be satisfactorily discharged by preventive measures, early diagnosis and treatment. Thus, the value of the service is doubled, and the cost of dental care cut in half. Accordingly, there will be fewer advanced cases of periodontoclasia, and less complaints about the high cost of dentistry.

Advanced cases should be referred to qualified periodontists.

—*C. J. C.*

76—Tempestini, Dr. Omero (Palermo): **Paradentiopatie e tubercolosi.** Paradentosis in the tuberculous, in: Stomalogia, xxx: 897. 1932.

The author points out the antagonism between caries and pyorrhea due to constitutional factors and the hypercalcification of the teeth which while rendering them pyorrhea-susceptible enabled them to offer a special resistance to the caries process. Cases of pulmonary tuberculosis are reported and the author's clinical, statistical and experimental researches are described on 1000 tuberculosis patients. From these studies it appeared that, notwithstanding the presence of local factors predisposing to paradentosis (paradental hypotension, alkalinity of the saliva, abundant calculus, defects of articulation, etc.), there was an absolute minority of paradentosis with a majority of caries cases. Further, the above mentioned antagonism was not absolute in the tuberculosis patients; but in the majority of cases, caries and pyorrhea co-existed. From his experimental studies on calcium, the author found a calcium deficiency in the teeth of tubercular cases.

On the basis of these studies and numerous clinical observations, the author concludes that the teeth of the tubercular are more frequently caries-susceptible and less often predisposed to pyorrhea and attributes these facts to constitutional factors, hereditary or acquired disturbances of calcium metabolism during the period of development of the dental organs.

—*Transl.*

77—Weski, Oscar, Dr. med. (Berlin): **New denomination of the so-called alveolar pyorrhea,** in: Proc. Viiith Int'l Dent. Cong., Sect. iv. p. 18. D. Cosmos, lxxiv (2): 200-1. Feb., 1932.

1. The author of the report gives a short account of the fruitless efforts of various

dental anatomists for founding on a scientific basis the conception of "pyorrhea alveolaris" issued exclusively from clinical ideas.

2. He enumerates in detail the propositions of various authors as regards the new denomination replacing "pyorrhea alveolaris," recognized as inadequate.

3. He shows in detail the linguistic reasons as well as the clinical adaptation of the name, by him created, of "paradentose" as a collective idea of "margo alveolaris" diseases, characterized by diminution of tissues.

4. He demonstrates the possibility of making among paradentoses a distinction between forms and types different from the anatomical and clinical points of view.

5. He notes that, in Germany, these last years, the "pyorrhea alveolaris" denomination completely disappeared from scientific and medico-dental vocabulary and was replaced in official circles and among the public by the term of paradentose, which thus proved its adequacy.

—*Copy.*

Abstracts of the 1933 articles on periodontia will be published in the July, 1934 issue.

INDEX OF SUBJECT MATTER

Bold faced figures refer to abstracts, light faced figures to pages.

1931

(a)—Periodontal Histo-pathology

Architecture of the mandible, 105-113.
Alveolar process, 111-115; diffuse atrophy, researches, 147(e)-152; pathological changes, 115-117.

Caries in unerupted molar, 125-119.
Capillaries, gingival, condition related to systemic, 161(f)-164.
Capillaroscopy, 107-113; significance, 106(e)-140; with observations, 123(e)-145.
Cementum, hypercementosis, 150(e)-153; repair of fracture, 108-114.
Contact point, interdental, 116-117.

Epithelium, enamel, 38(c)-123; structure and attachment, 114-115.

Gingivae, elephantiasis of, 113-115; gingivo-dental pathology, 121-118; histology and function, 98-111; innervation, 97-111; 100-112; normal and physiologic, 119-117; pathology, 120-118; retraction without inflammation, 136(e)-149; sulcus of, 114-115.

Occlusion, excessive, tissue changes in, 102-112.
Odontology, Handbook of, 115-116.
Orthodontic interference, tissue changes in, 103-112.

Paradentium, 126-120.
Peridental membrane, changes in, 99-111; 121(e)-144; influence of, disuse on, 117-117; function on, 109-114; injury, 130(e)-147; new concepts relating to, 121-118; regeneration, 104-115; width, 106-113; 117-117.
Periodontoclasia, pathologic anatomy of pockets, 115-116; 123-119.

Research, histologic, material for, 124-119; 48(c)-127.

Teeth, eruption of 112-115.
Tissue changes, normal and pathological, 110-114; pyorrhetic lesions, 122-119.

(b)—Periodontal Bacteriology

Anti-fusospirochetal tooth paste, 202(f)-171.

Cultural observations b. fusiformis, 29-120; 30-120; 108(h)-184; fusospirochete, 102(h)-183; spirochetosis, 57(i)-191.

Focal infection, 214(d)-140; 107(e)-140.

Microflora of pus pockets, 31-121; 122(e)-145; relation to blood picture, 128(e)-146.

Periodontoclasia as focus of infection, 176(d)-128; 188(d)-131; 197(d)-134; 134(e)-148.

Vaccine therapy, 149(f)-154; 155(f)-155; 172(f)-162; 200(f)-171; 204(f)-172; 219(f)-176.

(c)—Other Laboratory Researches

Diet, influence on alveolar process, 36-121; 43-126; 46-127; 45-126.

Experimental alteration of the mesio-distal relations of the jaws, 39-123; 40-124.
Epithelium of the mouth and enamel, 38-123.

Laboratory studies in mouth pathology, 41-125.

Periodontoclasia, early stages, 37-122; prevention of, 42-126.

Pathological changes in the teeth of rats by synthetic diets, 46-127.

Research, histologic, 48-127.
Root resorption, 44-126; of deciduous teeth in dogs, 48-127.

Tissue changes caused by mechanical separation of teeth, 47-127.

(d)—Clinical Etiology

Appendicitis and pyorrhea, 200-136.

Cholesterin, bilirubin, research in blood chemistry, 196-134.

Diet and periodontoclasia, 189-132; 203-137.

Early clinical lesions, 199-135.

Focal infection, and paradentosis, 176-128; 186-131; 197-134; 213-139; 214-140.

Gingival inflammations, how they arise, 188-131.

Infections, head, 177-128.

Mastication, significance of, 211-139.
Metabolism in paradental pyorrhea, 181-129; 204-137; 205-137; 207-138; 208-138; 212-139.

New growth formation in the jawbones, 175-128.
New viewpoints on dental disease, 184-131.

Paradentosis, general or local condition, 179-128; relation to systemic diseases, 182-129; diabetes, 185-131; constitutional predisposition, 202-136; systemic factors, 206-137; 209-138; and prosthetics, 190-132.

Stomatology, relation to obstetrics, 178-128; in hospital work, 180-129.

Tissue changes due to local irritations, 183-130; during orthodontic treatment, 210-138.
Tooth malposition as a factor, 201-136; 204-137.

Pyorrhea alveolaris, 191-133; 192-133; 193-133; a challenge, 198-135.

Role of residual nitrogen, blood sugar, calcium, in paradentosis, 195-134.

(e)—Symptomatology and Diagnosis

Alveolodental arthritis, 132-148.

Blood, composition of in pyorrhetic patients, 112-142; 122-145; 143-151.
Body and mind correlation, significance of, 140-150.

Capillaroscopy, significance of, 106-140; 123-145.
Clinical and laboratory investigations, 128-147.
Colloid therapy, 131-148.

Dental caries and periodontoclasia, 114-143; 126-146.
Dental diseases in pregnancy, 144-152.
Diabetes mellitus, 141-150; 148-153.

Early clinical lesions of pyorrhea, 111-141; 138-150; early diagnosis, 142-151.

Focal infection, and paradentosis, 107-140; 119-144; new concepts, 134-148.

Gingival hemorrhage, 117-143; 145-152.
Gingival hypertrophy, 110-141; 125-146.
Gingivitis and epulis, 118-144.
Gingivo-dental synalgies, 115-143.

Hypercementosis, relation to unerupted and malposed teeth, 150-153.

Infections, acute, 129-147.
Inflammatory processes of the mucous membrane, 149-153.

Metabolism, in paradentosis, 130-147; 146-152; 147-152; carbohydrate, 109-141.

Nerves of the pulp, condition of, 133-148; 139-150.

Occlusion, traumatic, 135-149.
Oral diseases, significance of, 113-142.

Periodontoclasia, suppurative, special case, 124-145.
Pre-senile atrophy, 136-149.

Salivary examination an aid to diagnosis, 116-143; salivary calculi, 119(b)-144.
Supporting tissues of teeth, significance of, 127-146.
Systemic conditions in paradentosis, liver function, study of, 108-140.

Teeth, vitality of, 137-149.
Tissue changes, in peridental membrane, 121-144.

(f)—Treatment

Abscesses, serpiginous pyorrheal, 208-173.
Actinotherapy, in pyorrhea, 215-174; 220-176.
Anesthetic, local, 151-154.

Capillaroscopy, 181-164.
Colloid therapy, 206-172.

Dietary advice, 156-155; 163-158.

General practitioner of dentistry, 197-170.
General treatment, 193-168; conservative, 195-168; 196-169; 217-175; 201-171; 210-173.
Gastrointestinal diseases, and stomatology, 200-171.

Ionophoresis, 187-166.

Medicinal aids, 153-155; 154-155; 166-159; 174-162; 176-162; 188-166; 191-167; 192-167; 198-170; 224-177; 202-171; packs, 179-163.
Mouthwashes and disinfectants, 162-157.

Nomenclature, 199-170.

Occlusion, rejuvenation of, 184-165; 214-174.
Orthodontia, influence on treatment, 182-164; 189-166; 203-172.

Procedure, routine, in treatment, 157-156; 171-161; 212-174.
Psychotherapy, application to dental problems, 168-160; 180-164.

Sensitive cervices, 167-159.
Splints and ligatures, 152-155; 173-162.
Surgical, 150-154; 159-156; 160-157; 164-158; 170-161; 177-163; 183-164; 186-165; 190-166; 223-177.

Ultra-violet therapy, 161-157; 165-158; 169-160; 175-162.

Vaccine therapy, 149-154; 155-155; 172-162; 204-172; 216-175; 219-176.

(g)—Home Care and Prophylaxis

Dieting to prevent pyorrhea, 30-178.

Injurious effect of cosmetics, 32-179.

Massage of the gingiva, artificial, 39-181.

Prophylactic measures to prevent loss of teeth, 31-178; 35-180; 37-181.

Rubber toothbrushes, 34-180.

Toothbrush trauma recession, 33-179.
Tooth cleansing and silk threads, 36-180.

(h)—Vincent's Infection

Etiology:
106-184.
Leukopenia, 110-185.

Diagnosis:
Definition and description, 98-182; cultural observations, 102-183; 105-183; 108-184; 111-185; microscopic, 101-182; 114-186; 115-186.

Treatment:
Irrigation, 118-187; 97-181; hydrochloric acid, 5%. 99-182; medicinal aids, 104-183; 109-184; 112-185; 113-185; 116-186; 119-188.
Toothbrush, use of, 107-184.

(i)—Miscellaneous

Aphorisms, periodontal, 61-192.

Chewing gum, 63-192.

Diagrammatic recording of periodontal disease, 58-191.

Gingivitis, incidence of, in sick children, 42-188.

Injuries resulting from irradiation, 50-190.

Lichen planus confined to mouth, 45-189.

Paradentosis, in France, 46-190; in Java, 44-189; p. and carcinoma, 56-191.
Periodontia, obligations of, 43-189; 47-190; and artificial teeth, 40-188.
Pyorrhea, and specialists, 39-188; p. service at odontotechnic school, 48-190; p. and dental caries, 59-191.

Research, plea for dental, 49-190.

Traumagenic occlusion, 41-188.

Nomenclature, 60-191.

1932

(a)—Periodontal Histo-pathology

Blood supply of periodontium, 134-195.

Calcifications in the pericemental membrane, 128-193.

Changes in dental pulp and paradentium in paradentosis, 129-193.

Enamel and enamel cells, unsuspected qualities of, 137-196.

Epithelial attachment and gingival crevice, new views on, 139-197; 140-198.

Epithelial rests in periodontium, 133-195; outside of p. 135-196.

Histologic findings in treated and untreated cases, 138-196.

Influence on periodontium of ovarian function, 132-195.

Innervation of the periodontium, 141-198.

Melanoblasts in the human gum, 136-196.

Paradental epithelium, reticular arrangement of, 131-195.

Studies of alveolar pyorrhea, 130-194.

Tissue changes in the paradentium due to trauma, 127-193.

(b)—Periodontal Bacteriology

Acidophilic b., decalcifying action of, 32-199.

Bacterial content of toothbrushes, 38-200.
Bacterial infection and protozoal infestation, 36-200.

Fungus infestation of the gums, studies of, 34-199.
Fusiform bacteria and streptococci, association of, 35-199.

Microflora of the oral cavity in apes, 33-199.

Reduction of the gingival flora, 37-200.

(c)—Other Laboratory Researches

Acid-base equilibrium in paradentosis, 53-202.
Ashing histological sections, results of, 51-201.

Capillaroscopy, value of, 52-201.

Lipoids of the teeth, 50-201.

Paradentosis, osteopathic-distrophic type, 49-200.

(d)—Clinical Etiology

Alveolar process, importance of its preservation, 223-204.
Arthritis, a basic factor, 225-205.

Cholesterin in the blood, amount of in alv. pyorrhea, Constitutional conditions, 229-206; 42(g)-226. 217-202.

Dental diseases, cause and effect of, 232-207.
Diet, effects on course of paradentitis, 233-207.

Epithelial defects, origin of parodontitis, 130(a)-194.

Hormonic imbalance, 236-209; 237-209.

Lesions in human teeth, result of scurvy, 222-204.

Masticatory unit, destruction of, 228-206.

Paradentosis—case report of young dog, 219-203.
Periodontal disease, 235-209.
Prophylaxis and origin of tooth loosening, 216-202.
Pyorrhea alv.—and carcinoma, analogies between, 230-206; a systemic disease, 218-203; and uricemia, 220-203; study from neurological standpoint, 234-208.

Root absorption, result of orthodontic treatment, 226-206.

Variety of beliefs concerning etiology, 221-203, 224-205; 231-207; 259(f)-224.

(e)—Symptomatology and Diagnosis

Colloid chemical theories to explain tartar formation, 164-214.

Differential diagnosis, 161-212.

Early recognition of diabetes mellitus by oral conditions, 160-212.

Gingival hemorrhages, 151-209.

Hypertrophy of the gums, 162-213.

Leukoplakia, rare and new forms, 165-214.

Paradentosis, studies among depressives, 154-211.
Periodontitis, simplex and complex, 153-210.
Pyorrhea alveolaris, recognition of, 155-211.

Review, 156-211.
Roentgen rays in diagnosis, 157-212.

Symmetrical swellings of the alv. process, 158-212.
Symptomatic therapy of paradentosis, 163-213.
Systemic effects of pyorrhea, 244(f)-220; 245(f)-220; 246(f)-220.

Ulceration of tongue, necrotic, 152-210.

(f)—Treatment

Actinotherapy, 247-221; 254-223.
Alkalization, therapeutic, 250-222.

Conservative, 225(d)-205; 235(d)-209; 163(e)-213; 229-215; 230-215; 237-217; 249-221; 256-223; 258-224; 262-225.

Dental infection and its metasteses, 234-216.
Diet, 161(e)-212; 238-218; 248-221; 249-221.

Epithelial solvent, 243-220.

General treatment, 161(e)-212.
Gingival revitalization, 227-214.

Iodine therapy, 229-215.

Jacket crowns as an aid, 228-215.

Medicinal treatment, 230-215; 241-219; 242-219; 251-222; neosalvarsan, 252-222; specific antiseptics, 255-223; mercurochrome, 257-224.

Occlusal adjustment, 262-225.

Partial dentures as factors in, 232-216.
Preservation of alveolar process, 223(d)-204.
Preventive treatment, 221(d)-203; orthodontic, 240-219; 248-221; 256-223; 42(g)-226.

Replantation, 233-216.
Roentgenologic interpretations, 231-215.
Roentgen therapy, 260-224.

Surgical, 237-217; 239-218; 244-220; 245-220; 246-220; 253-222; 259-224; 261-225.

Use of drugs, packs, instrumentation, 236-217.

Vaccine therapy, 235-216; 252-222.

(g)—Home Care and Prophylaxis

Eliminating mouth infections with toothbrush, 40-225.

Gingival stimulation, 44-226.

Mouth washes and gargles, 41-226.

Prevention of pyorrhea, 42-226.
Prophylaxis in general practice, 43-226.

Subgingival cleansing, 45-226.

Tooth paste, potassium iodide, 251(f)-223.

(h)—Vincent's Infection

Age of incidence—in childhood, 155-231; in adult life, 157-231; 161-233.

Causes of failure to cure permanently, 146-228.
Classification of cases based on clinical observation, 143-227.

Diagnosis, importance of correct, 153-229.

Fusiform bacilli, number of, related to mouth hygiene, 161-233.

General review, and methods of transmission, 145-228.

Localized lesions, 164-234.

Mononucleosis, 149-229.
Mouth wash, specific, preliminary report on, 156-231.

New concepts of gingivo-dental diseases, 163-234.

Relation of Borrelia Vincenti to oral disease, 144-227; 162-234.

Treatment, 242(f)-219; 249(f)-221; 146-228; 147-228; 148-229; review of various methods of, 154-230; 157-231; 158-232; 159-233; value of drugs in, 160-233.

Ultra-violet radiation, 165-235.
Use of toothbrush in, 153-229.

Vincent's angina, fatal case, 142-227.
Vincent's infection following tooth extraction, 150-229; 151-229; 152-229; following surgery, 162-234.

(i)—Miscellaneous

Actinomyces in oral cavity and significance, 65-235.

Black hairy tongue, treatment of, 71-237.

Dental caries in unerupted teeth, 69-236.
Dental examination for life insurance prospects, 67-236.

Galvanic burns of the oral mucosa, 73-238.
Gingivo-cardiac reflex, 64-235.

Nomenclature, 77-238.

Opening the bite, effect of, 66-236.

Paradentosis in the tuberculous,76-238.

Research on saliva, 72-237.
Responsibility of family dentist, 75-238.

Teeth and diet, 70-237.

INDEX OF AUTHORS—ABSTRACTS

1931 and 1932

(a)—Periodontal Histo-pathology

Adrion, W. ---- 193
Agnew, R. Gordon ---- 193

Bauchwitz, Max ---- 193
Bergamini, M. ---- 111
Bödecker, Charles F. ---- 111
Bohres, Hildegard ---- 194
Bruszt, Paul ---- 195

Cahn, Lester Richard ---- 111
Crane, Arthur B. ---- 196

Duperroy, Dr. ---- 195

Fischer, Guido ---- 195

Gaini, B. ---- 111
Giardino, Giosué ---- 112
Gottlieb, Bernhard ---- 112

Häupl, Karl ---- 112
Hayashi, Satao ---- 195
Heddema, E. H. ---- 120
Higaki, Rinso ---- 196
Hill, Thomas J. ---- 113

Kaplan, Harry ---- 196
Katz, Asari ---- 113
Kellner, Ernst ---- 113
Kolb, Hermann ---- 113
Kronfeld, Rudolf ---- 114

Laidlaw, George F. ---- 196
Landsberger, Richard ---- 115
Lartschneider, Josef ---- 115, 196

Mann, James B. ---- 196
Mirolli, A. ---- 115

Orbán, Balint ---- 112, 115, 197

Palazzi, Silvio ---- 116
Philipp, S. ---- 117
Preissecker, Otto ---- 117

Reppeto, W. M. ---- 198
Rabinowitsch, Anna ---- 198

Schram, W. R. ---- 117
Skillen, William G. ---- 117, 118

Tellier, Julien ---- 118

Vilar-Liol, Rafael ---- 119

Wasif, G. ---- 119

Zemsky, James L. ---- 119
Zilkens, Karl ---- 119

(b)—Periodontal Bacteriology

Antoniotti, D. ---- 199

Bogoljubowa, E. I. ---- 199

Cahn, Lester Richard ---- 199

Dean, Marguerite T. ---- 120
Dean, R. B. ---- 120

Grandclaude, Charles ---- 199
Gridley, M. F. ---- 120

Grosse, W. F. ---- 199

Keilty, Robert A. ---- 200
Klein, Jacob ---- 120
Krogh, Harold W. ---- 200

Lesbre, Ph. ---- 199

Viefhaus, K. ---- 200
Vincent, Réné ---- 121

(c)—Other Laboratory Researches

Becks, Herman ---- 121, 122, 123, 200
Beisler, E. H. ---- 127
Briasco, J. ---- 201
Breitner, Carl ---- 123, 124

Downs, Wm. G., Jr. ---- 125

Eicken, Erich ---- 201

Goldstein, Ferdinand ---- 201

Hunter, William ---- 126

Karshan, Maxwell ---- 127
Klein, Henry ---- 126
Kronfeld, Rudolf ---- 126

McCollum, Dr. ---- 126
Mellanby, Edward ---- 126
Mueller, Emil ---- 126

Orent, Dr. ---- 126

Rompel, Hedwig ---- 202
Rosebury, Theodor ---- 127

Skillen, William G. ---- 127

Urban, L. B. ---- 127

Weber, Moritz ---- 121

(d)—Clinical Etiology

Angerer-Kux, Edeltraud ---- 128
Auerbach, Ulrich ---- 128

Bauer, W. ---- 202
Bánhegyi, Stéphan ---- 134
Bergamini, M. ---- 202
Biddle, A. Graham ---- 128
Bland, P. Brooke ---- 128
Blass, J. L. ---- 209
Boenheim, Felix ---- 128, 203
Brinch, Ove ---- 203
Bruhn, Christian ---- 129

Cahen, Paul ---- 129
Campatelli, Vincenzo ---- 203
Charlet, R. ---- 203
Citron, Julius ---- 129
Coolidge, Edgar D. ---- 130
Croes, J. de ---- 203

Dalldorf, Gilbert ---- 204
DeVan, M. ---- 204
Downs, Wm. G. ---- 131

Francois, F. ---- 139
Frey, le Prof. ---- 205

Gescheff, Georg ---- 131
Gibbs, W. D. ---- 131
Göthlin, Gustaf Fr. ---- 131
Gottlieb, Bernhard ---- 131
Gubler, Walter ---- 206

Hawkins, Harold F. ---- 132
Heinrich, E. ---- 206
Held, Arthur ---- 132
Hoffer, Carl W. ---- 206
Hoffmann, K. F. ---- 206
Hulin, Charles ---- 133

Irwin, D. Boyd ---- 133

Jacobs, Walter H. ---- 133

Landgraf, Erwin ---- 134
Le Norcy, Dr. ---- 206
Leschke, Erich ---- 134
Lewis, J. Monahan ---- 135
Loos, Otto ---- 135
Lyons, Harry ---- 207

Magalhaes, H. de ---- 136
McCall, Dr. ---- 209
McCall, John Oppie ---- 136
McDougall, J. M. ---- 136
Mellanby, May ---- 137
Merritt, Arthur H. ---- 207
Miller, Dr. ---- 209

Newling, P. Ray ---- 137
Nothmann, Martin ---- 137

Palmer, G. B. ---- 137
Pjatnitski, F. A. ---- 207
Platonow, E. ---- 208
Pulay, Erwin ---- 137

Renshaw, Arnold ---- 138
Retterer, Eduard ---- 138

Schwarz, A. Martin ---- 138
Seppä, Kerttu ---- 139
Stillman, Paul R. ---- 209

Tempestini, Omero ---- 209

Voit, K. ---- 137

Weinmann, Josef ---- 139
Weissenbach, R. J. ---- 139
Weski, Oskar ---- 140
Witz, Otto ---- 140

(e)—Symptomatology and Diagnosis

Back, Heinrich ---- 140
Bauer, Andor ---- 209
Behnke, Otto ---- 140
Berensohn, F. B. ---- 145
Boenheim, Felix ---- 140, 141
Börsner, A. ---- 141
Broderick, F. W. ---- 141
Bourgeois, Henri ---- 210
Box, Harold Keith ---- 210

Charbonnier, William ---- 142
Citron, Julius ---- 142
Cleef, Max, Van ---- 211
Colon, Alberto ---- 143
Crane, Arthur B. ---- 211

Destizon, Paul ---- 143
Duyvensz, Frans ---- 143

Epstein, Irwin A. ---- 143

Fischer, István ---- 211
Fixott, Henry Cline ---- 212
Fleury, Val de Grace ---- 144

Gelber, Louis J. ---- 144
Gouriou, Dr. ---- 144
Grohs, Richard ---- 144
Grosse, W. F. ---- 145

Hanssen, Rudolf ---- 214
Hermann, Franz ---- 145
Hirschfeld, Isador ---- 145

Kaplan, Harry ---- 211
Keizer, W. R. ---- 146
Koblin, H. A. ---- 212
Krey, Heinz ---- 145
Kritchewsky, Bernard V. ---- 146

Lang, F. J. ---- 146
Lehoczy, Tibor ---- 212
Metlizki, J. K. ---- 146
Mondain, Dr. ---- 144
Moorehead, Frederick B. ---- 147

Nassau, Martin ---- 147
Niles, John Gilchrist ---- 212

Orbán, Balint ---- 212

Palazzi, Silvio ---- 148
Pitsch, Georges ---- 148
Pitts, A. T. ---- 213
Platonow, E. ---- 148
Pollia, Joseph A. ---- 148
Prawednikow, S. N. ---- 213
Precht, Dr. ---- 149

Query, Dr. ---- 149

Redisch, Walter ---- 140
Retterer, Edouard ---- 149
Rosenthal, J. ---- 150
Roy Maurice ---- 150

Sachs, Hans ---- 150
Schwab, H. ---- 150
Sedginidse, G. A. ---- 151
Spiro, Paul ---- 151
Suchanoff, G. A. ---- 146

Temesvary, N. ---- 152
Türkheim, Hans ---- 214

Ullmann, K. ---- 214

Vásquez, Angel ---- 152

Weinmann, Josef ---- 152
Williams, John Bell ---- 153
Wolff, T. ---- 153

Zemsky, James L. ---- 153

(f)—Treatment

Aleman, Dr. ---- 154
Anthony, L. Pierce ---- 154
Asgis, A. J. ---- 214
Atta, A. ---- 215

Barkann, Lillian ---- 154
Becker, W. A. ---- 155
Blass, J. Lewis ---- 155
Bonne, Dr. ---- 215
Bracchetti, Guido ---- 155
Brahy, E. ---- 155
Bryan, A. W. ---- 155

Chichester, A. S. ---- 156
Cobe, H. M. ---- 215
Cohn, Franz ---- 156
Colburn, W. A. ---- 215
Crane, Arthur B. ---- 156, 157

Djindjian, H. ---- 157
Dobkowsky, Theodor ---- 157

Elbrecht, A. ---- 216
Entin, D. A. ---- 158
Ermolaiev, Dr. ---- 170
Erva, F. ---- 158

Fieschi, Prof. ---- 158
Filderman, Jaques ---- 159
Franken, Sigmund W. A. ---- 159

Frohman, B. S. 160
Furniss, Austin 160

Garvin, M. H. 161
Gaubert, Pierre 162
Gerlach, H. P. 216
Ghinst, Van der, J. 162
Gnau, Heinrich 162
Gonter, Otto 162
Goodfriend, S. H. 162
Grandclaude, Charles 216
Greve, H. 163
Guéricolas, Mlle. L. 216
Günther, P. 163

Haley, Philip S. 163, 217
Heinrich, Erich 164
Hermann, Franz 164
Hoffman, H. F. 164
Humphreys, Karl 164

Irwin, V. D. 165

Jennen, Friedrich 165
Johnson, Raymond E. 165, 217
Joyeux, A. 166
Junod, André 166

Kaplan, Harry 156, 157
Ketcham, Dr. 166
Kirkland, Olin 166, 218
Kjellgren, Birger 219
Kraus, Dr. 167
Krey, Heinz 164

Landsberger, Paul 167
Lang, M. 219
Lebedinsky, G. G. 168
Leonard, Harold J. 168
Lesbre, Ph. 216
Lufkin, Arthur W. 219

McCall, John Oppie 220
McFarland, Harry M. 220
Merritt, Arthur H. 169, 170
Metalnikov, Prof. 170
Morelli, Gusztav 170
Moutier, M. Francois 171
Muir-Smith, H. 171

Neugebauer, Kurt 171
Neustadt, Egon 172
Nivard, E. 221

Ormiston, F. A. 172

Palazzi, Silvio 172

Quinby, E. Melville 221

Rose, Edward D. 221
Rosenthal, Bettl 222
Rosenthal, Pierre 173
Rosteck, Dr. 222
Roy, Maurice 173
Ruchti, Paul 173
Rute, Edoardo, De 222

Snapp, Ralph B. 173
Stones, H. H. 222
Spalding, Grace Rogers 173, 174
Stancius, P. 174
Stärke, Walter 174

Talbot, F. 174, 223
Thibault, R. C. 175
Thompson, Wm. E., Jr. 223
Tishler, Benjamin 175, 223
Torrens, R. G. 224
Tripp, S. T. 175
Turner, J. G. 224

Vincent, Réné 176

Wallisch, Wilhelm 176
Warland, J. 224
Waugh, Dorothy B. 176
Weber, Rudolf 176
Weinberger, Walther 224
Weiss, Louis R. 225
Westwater, L. A. 177
Wilson, Wilfred R. 177
Winkler, Rudolf 177
Withycombe, R. Morse 225
Wolff, H. 177

(g)—Home Care and Prophylaxis

Charters, W. J. 225

Fairchild, J. S. 178

Gottlieb, Bernhard 178

Herxheimer, Karl 179
Hirschfeld, Isador 179

Jaccard, René 226

Lichtwitz, Alfred 180

Métrot, René 180

Pauson, H. 180

Rowlett, A. E. 226

Sorrin, Sidney 181

Tishler, Benjamin 226
Torrens, R. G. 226

Weisbach, Dr. 181
Worman, Harold G. 181

(h)—Vincent's Infection

Albray, Raymonde A. 181

Barton, F. W. 227
Belding, P. H. 227
Belding, L. J. 227
Bertram, I. R. 228
Bloodgood, Joseph Colt 228
Box, Harold Keith 182
Brown, J. B. 231
Butler, Harry 228

Clara, Dr. 182
Clothier, H. M. 229
Cohen, Sidney 182
Cottrell, James 229

Daley, Francis H. 182
Danforth, J. C. 229
Dean, Marguerite T. 183
Disraeli, I. 183
Dudgeon, L. S. 229

Eller, Joseph Jordan 183
Farbman, A. A. 229

Harrell, Dr. 183
Heffernan, P. 229
Hirschfeld, Isador 229
Hopkins, J. A. 230

Katz, Joseph H. 184
Kauffmann, J. H. 184
Kellett, C. E. 231
Kitchin, Paul C. 231
Klein, Jacob 184

Lacy, Malcolm B. 184
Mead, Sterling V. 231

Meistroff, C. L. 232
Mowry, D. P. 233
Musburger, Lloyd E. 233

Pepper, Oliver H. 185
Pittard, Jean 233

Randall, S. J. 185
Rein, Charles Robert 183
Rochette, M. 185

Rosenbaum, Harold A. ---- 185
Smith, Arthur E. ---- 186
Smith, David T. ---- 234
Sol, A. ---- 186
Tellier, Julien ---- 234
Thompson, A. J. ---- 186
Tishler, Benjamin ---- 187
Underwood, Bayford ---- 234
Wheeler, J. H. ---- 187
White, John H., Jr. ---- 235
Zemsky, James L. ---- 187

(i)—Miscellaneous

Alexander, S. ---- 188
Benagiano, Andrea ---- 235
Best, Elmer S. ---- 188
Bjerrum, O. ---- 235
Box, Harold K. ---- 188
Breitner, Carl ---- 236
Cohen, Joseph T. ---- 188
Dixon, Maxwell Merton ---- 189
Eskes, T. J. ---- 189
Fox, H. ---- 189
Gordon, Rudolph N. ---- 236
Glaser, Herta ---- 190
Gray, William A. ---- 190
Guéricolas, Mlle. L. ---- 190
Haggett, E. W. ---- 190
Hansen, S. ---- 235
Hartmann, R. ---- 236
Hazen, H. H. ---- 190
Heyninx, Albert ---- 191
Hill, Thos. J. ---- 191
Hirschfeld, Isador ---- 191
Hollander, Lester ---- 238
Jones, Martha R. ---- 236
Jung, Karl Georg ---- 237
Kritchevsky, Bernard ---- 191
Lang, F. J. ---- 191
Larsen, Nils P. ---- 236
Maggioni, A. ---- 238
Merritt, Arthur H. ---- 238
Mowry, D. R. ---- 192
Nord, Ch. ---- 192
Tempestini, Omero ---- 238
Weichardt, Wolfgang ---- 192
Weski, Oscar ---- 238